This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

BOSTON
MEDICAL LIBRARY

FOUNDED A.D. 1875
INCORPORATED 1877

IN THE
Francis A. Countway
Library of Medicine
BOSTON

EDINBURGH

MEDICAL JOURNAL,

COMBINING

THE MONTHLY JOURNAL OF MEDICINE

AND

THE EDINBURGH MEDICAL AND SURGICAL JOURNAL.

VOL. XXIV.

JULY ~~1878~~ TO JUNE 1879.

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION

EDINBURGH:
OLIVER AND BOYD, TWEEDDALE COURT.
LONDON: SIMPKIN, MARSHALL, AND CO.

MDCCCLXXIX.

EDINBURGH: PRINTED BY OLIVER AND BOYD, TWEEDDALE COURT.

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION

ALPHABETICAL LIST OF THE CONTRIBUTORS OF ORIGINAL ARTICLES.

ADAMS, JAMES, M.D., of Glasgow.
ANDERSON, HENRY SCOTT, M.D., Selkirk.
ANNANDALE, THOMAS, F.R.C.S E., Professor of Clinical Surgery in the University of Edinburgh.
BAIRD, ALEX., M.D., Perth.
BELL, CHARLES, M.D., F.R.C.P. Ed.
BELL, JOSEPH, F.R.S. Ed., F.R.C.S. Ed., Surgeon to the Royal Infirmary and Lecturer on Clinical Surgery, Edinburgh.
BELL, ROBERT, M.D., F.F.P.S.G.
BENNETT, JAMES M., M.D., Surgeon to the Liverpool Surgical Home, and Consulting Surgeon to the Liverpool Dispensaries.
BRAIDWOOD, P. M., M.D.
BRAMWELL, BYROM, M.D., Edinburgh.
BRAMWELL, J. P., M.D. and L.R.C.S., one of the Visiting Medical Officers of the Perth Infirmary.
BUIST, J. B., M.D., M.R.C.P. Edin.
CADELL, FRANCIS, F.R.C.S. Ed.
CASH, THEODORE, M.B., M.R.C.S., Resident Physician, Royal Edinburgh Infirmary.
CASSELLS, JAMES PATTERSON, M.D., M.R.C S. Lond., etc., Aural Surgeon to the Glasgow Royal Infirmary, and Lecturer on Aural Surgery in the Glasgow Royal Infirmary School of Medicine.
CHIENE, JOHN, F.R.C.S. Ed., Surgeon, Royal Infirmary, Edinburgh.
CORMACK, Sir JOHN ROSE, M.D., F.R.S. Ed., F.R.C.P. Lond., Chevalier of the Legion of Honour, Physician to the Hertford British Hospital, Paris.
DUNCAN, J. MATTHEWS, M.D., F.R.S. Ed., F.R.C.P. Ed., Lecturer on Gynecology, St Bartholomew's Hospital, London.
DUNCAN, JOHN, M.A., M.D., F.R.C.S., Surgeon, Royal Infirmary.
FERGUS, ANDREW, M.D., Glasgow.
FINLAY, W. A., M.D., F.R.C.S.E., Trinity.
FOTHERGILL, J. MILNER, M.D. Edin., London.
GARSON, J. G., M.D., L.R.C.S. Ed.
GRIFFITH, Dr G. DE GORREQUER, Senior Physician to the Hospital for Women and Children, Consulting Physician-Accoucheur to St Saviour's Maternity.
HADDON, JOHN, M.A., M.D., of Manchester.
HAMILTON, Dr G., Falkirk.
HART, DAVID BERRY, M.B., Assistant to the Professor of Midwifery in the University of Edinburgh.
HENDERSON, EDWARD, M.D., F.R.C.S. Ed.
HUSBAND, J., F.R.C.S.E.
INGLIS, T., M.R.C.P.E, Royal Edinburgh Asylum.

JAMES, ALEXANDER, M.D., Lecturer on Physiology, Edinburgh Medical School.

JAMIESON, W. ALLAN, M.D., F.R.C.P.E., Lecturer on Diseases of the Skin, Edinburgh School of Medicine.

JOHNSTONE, J. CARLYLE, M.B., Assistant Physician Fife and Kinross Asylum.

KEILLER, ALEXANDER, M.D., F.R.C.P.E., Consulting Physician for the Diseases of Women to the Royal Infirmary, etc.

LABONTÉ, J., M.D., M.R.C.P. Ed., Mauritius.

LINDSAY, W. LAUDER, M.D., F.R.S.E., Physician to the Murray Royal Institution, Perth.

LŒWENBERG, Dr, Paris.

LOWNDS, T. M., M.D., Egham, Surrey.

MACDONALD, ANGUS, M.D., F.R.C.P. Ed., F.R.S.E., Physician and Clinical Lecturer on the Diseases of Women, Royal Infirmary; Lecturer on Midwifery and the Diseases of Women and Children, Medical School, Edinburgh.

MACDONALD, KEITH NORMAN, M.D. Erlang., F.R.C.P. Edin., L.R.C.P. Lond., Cupar-Fife.

MACDOUGALL, J. A., M.D., F.R.C.S.E., Surgeon to the Cumberland Infirmary.

MACLAREN, JAMES, L.R.C.S.E., Medical Superintendent Stirling District Asylum.

MILLER, HUGH, M.D., Physician Accoucheur, Glasgow Lying-in-Hospital.

MOIR, JOHN, L.R.C.P. Ed., District Medical Officer West Ham Union, London.

MORISON, ALEXANDER, M.D., Honorary Medical Officer to the Holloway and North Islington Dispensary, London.

MUNRO, W., M.D., Manchester.

NASMYTH, T. GOODALL, M.B., C.M., Cowdenbeath.

OGSTON, FRANCIS, jun., M.D., Surgeon to the Aberdeen Royal Infirmary.

OWEN, EDMUND, F.R.C.S., Assistant-Surgeon to St Mary's Hospital, and Lecturer on Anatomy, London.

PALM, THEOBALD A., M.B. & C.M., of Japan.

PIRIE, GEORGE C., M.D., Dundee.

ROBERTS, JOHN B., M.D., of Philadelphia.

SANCTUARY, T., L.R.C.P. & S.

SIMPSON, Professor ALEXANDER RUSSELL, M.D.

SMITH, ROBERT, F.R.C.S. Ed.

STEELE, HENRY, M.D.

STEWART, WM., M.B., B.Sc., Leith.

STUART, JOHN A. ERSKINE, L.R.C.S. Ed., Dunse.

UNDERHILL, CHARLES E., M.B., F.R.C.S. Ed.

URBANTSCHITSCH, Dr VICTOR, Lecturer in the General Polyclinic of Vienna.

VIEIRA, Dr A. X. LOPES.

WALLER, BRYAN CHARLES, M.D.

WILL, J. C. OGILVIE, M.D., Surgeon to the Aberdeen Royal Infirmary.

WILSON, ANDREW, M.D.

WORTABET, Dr JOHN, Professor of Anatomy and Medicine, College of Beyrout.

EDINBURGH

MEDICAL JOURNAL,

COMBINING

THE MONTHLY JOURNAL OF MEDICINE

AND

THE EDINBURGH MEDICAL AND SURGICAL JOURNAL.

VOL. XXIV.—PART II.

JANUARY TO JUNE 1879.

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION

EDINBURGH:
OLIVER AND BOYD, TWEEDDALE COURT.
LONDON: SIMPKIN, MARSHALL, AND CO.

MDCCCLXXIX.

EDINBURGH: PRINTED BY OLIVER AND BOYD, TWEEDDALE COURT.

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION

Part First.

ORIGINAL COMMUNICATIONS.

Article I. — *Gleanings from a Continental Holiday—The Inaugural Address at the First Meeting of the Royal Medical Society of Edinburgh for the Session* 1878–79. By Professor Alexander Russell Simpson, *Olim Præses.*

Mr President and Gentlemen,—When I received the invitation with which you honoured me to deliver the inaugural address on this occasion, I was about to start on a continental holiday; and it occurred to me that I might pick up some information in my travels which it would be worth my while to try and impart to you. I had experienced the benefit, immediately after the close of my own student career, of a course of study at some of the French and German universities; and I have such a lively recollection of the enjoyment I then experienced, and such a strong impression as to the value not only of the information I then acquired, but of the healthful impulse and direction I received for the whole of my professional life, that I hoped to be able to bring before you incidents that might induce some of you to follow a course which I found so beneficial to myself. The results have not quite come up to my expectations. I regret, moreover, to find myself compelled at the outset to claim your kind indulgence, and to ask you to bear with me if I present what observations I have to offer in a somewhat disconnected form; because during the fortnight when I expected to have been able to write an address in some degree worthy of this Hall and this occasion, I found myself instead lying on a sick-bed, where it was impossible for me to write or even to think to purpose.

As the central point of interest in my excursion I had planned a visit to Cassel, with the view of attending the meetings of the Association of Naturalists and Physicians. This German Association, which has existed for more than half a century, represents a combination of our two great associations—the British Association for the Advancement of Science, and the British Medical Association; and, like our associations, it meets in successive years in different cities of the Fatherland. Last year, their jubilee year, they met in Munich, which, as the capital of Bavaria, with its great university and other buildings, formed an attractive gathering point for such an assemblage.

Cassel, the seat of this year's meeting, although formerly the capital of an electorate, with a population of about 53,000, holds but the rank of a provincial town since Hesse-Nassau, of which it was the chief city, became a province of the united German Empire. It is a pleasant enough town, lying on the base of a ridge of hills that run somewhat steeply up from the sides of the river Fulda. On the river banks the lines of the old fortifications are easily recognised, transformed here, as in other cities of Germany, into delightful promenades. It has one imposing public square, with the old electoral palace now unoccupied, a series of buildings for government offices, and a large Industrial Museum and Library. It does not, however, present any feature of special interest for the physician or naturalist; and when the president, in his opening address, sought to sound its praises, his most striking incident had reference to a somewhat mythical steamboat which was built by a Huguenot professor from the neighbouring University of Marburg, and was said to have sailed in the Fulda from Cassel to Münden in the year 1707. There was a further reason why the meeting of this year should not be so well attended as usual. Ordinarily the Association meets on the 18th of September; but their grand old Emperor, who had just recovered sufficiently from his gunshot wounds to be able to appear in public, had planned a visit to Wilhelmshöhe, one of his palaces close to Cassel, with the purpose of holding a review in the neighbourhood. The Association was thus compelled to assemble a week before its proper time, and some, who had arranged to attend at the appointed date, could not come to the earlier meetings, which were only intimated two or three weeks beforehand. The different sections of the Association, numbering as many as twenty-six in all, had to be accommodated in the various schools which abound in every German city. The general meetings were held in a large festival hall improvised out of the cask hall of a great brewery for the occasion, about a mile out of town on the road to Wilhelmshöhe, the royal residence to which I have referred, and with the name of which we all became familiar after the battle of Sedan as the place to which the late Napoleon was taken captive.

The programme for the week's proceedings presented a due admixture of work and recreation; unless we reckon the devotion of the greater part of the first day to an excursion to Wilhelmshöhe, —of the evening of the second day to a visit to the theatre to hear Don Juan,—of the third evening to a banquet in the festival hall,—of the afternoon of the fourth day to an open-air banquet in the meadow by the river side,—of the evening of the fifth day to a concert,—and of the evening of the last day to a farewell supper—unless, I say, we regard all this as evidence of undue partiality to the recreation department. And perhaps you will agree that this department was rather overdone, when I add that provision was made for a choice of five different excursions on the intervening Sunday.

The forenoons and afternoons of only three days were devoted to the work of the sections, the other forenoons being occupied with the general meetings of the Association, at which addresses were delivered on subjects chosen by the several orators.

It was interesting to observe how the subject of Darwinism pervaded the various orations. Not only in addresses on such subjects as "The Relation of Darwinism to Social Democracy," and on "The Relation of Microcephaly to Atavism," but even in such subjects as "Symbiosis" and "The Cellular Pathology and Infectious Diseases," and others, the name of our distinguished countryman kept cropping up, and the theory that bears his name was dwelt upon. For the present the theory seems to be accepted widely—one might almost say universally—among the German naturalists; but the more strictly scientific among them are careful to insist on its acceptance simply as a theory, and not to set down the derivation of man from the lower animals as among the proven facts of science. Thus Professor Aeby of Berne, in his able address on The Relation of the Microcephalic Skull to the Skulls of Lower Animals, said: "Internal and external grounds have led us to this, that we must recognise in microcephaly not an expression of atavism, but a consequence of morbid degeneration. Microcephalous individuals, therefore, do not by any means point back to the milestones past which humanity has travelled in the gray archaic times. The chasm between man and animals can neither be bridged over by them nor even in any degree narrowed. That gulf remains after as before, and whoever will not bow to the proof of logical deduction, but only to the might of actual facts, for the derivation of man, may for the present quietly lay his head to rest and cradle himself in the hope that perhaps no one will so soon succeed in adducing the necessary facts." No doubt, the subject has been working the more actively in the minds of the German naturalists, since, at the Munich meeting of last year, one of them, who outdarwins Darwin, made the wild proposal to introduce the doctrine of "Creation by Descent" into the public schools as the only possible explanation of all the phenomena of the material and spiritual universe, in an address which had the effect of calling forth a magnificent oration from Virchow, who, in the name of true science, contested the "wilful and despotic" views of Häckel. In this year's addresses the best of the speakers ranged themselves on Virchow's side in the contest. Thus Professor Klebs of Prague, in the course of an oration on the "Cellular Pathology and Infectious Diseases," in which he sought to show that pathology is ripening for some better theory than the cellular pathology, which will make Virchow's name for ever memorable, uttered the following sentence: "To speak of mental activity as a secretion of the ganglion cells of the brain, as Häckel does, would be about as correct as if one were to call any movement effected by muscular action a secretion. Perhaps it is hardly worth while stopping to prove this, since every expression of an ingenious investigator, like much else in his charming popular expositions, is not to be taken all too seriously. Of course, it is not everybody who can appreciate this kind of humour, and it may quite well happen that a simple artisan, on the ground of that expression, will be inclined to estimate the mental activity of the investigator no higher than the secretion of his liver or his kidney. But"—and this is the passage which I chiefly meant to quote—"but the responsibility of the scientific investigator assumes a much more serious aspect when he takes upon himself the task of forming, out of a series of observations of nature and conclusions deduced therefrom, a complete system which affects to explain all spiritual and corporeal existence according to its foundation and its aim, and pretends at a single stroke to provide a new conception of the universe. Then the scientific investigator becomes a prophet, and as such he must be content to see the bases of his system and the close connexion of its parts put to the test. It is possible to be an enthusiastic follower of the Transformation theory and the doctrine of Origin by Descent, and yet to see in the applications which are made of them on many hands, and especially by Häckel, a danger for the development of science itself, and for the influence which science exercises on the intellectual life of the nation. I will say nothing of the intolerance with which this doctrine has set itself forward in the face of eminent investigators, although it must make a most perplexing impression on any unprejudiced mind to hear every opponent immediately set down as an ignoramus. But there is one thing on which we cannot lay too much stress,—the fact, viz., that Häckel's philosophic system (which is based on that quite trustworthy scientific hypothesis) suffers from very important and obvious logical defects. For example, it must surprise every one to hear him reckon among his so-called soul-cells even the muscular fibres, so that he must either ascribe consciousness to these, or extend the idea of the word soul so far as to include in it everything that has life. Still more difficult is it to understand his exact meaning when he says, 'The most important active element in all cells, Protoplasm, shows everywhere the same psychical (?) qualities of sensitiveness (irritability) and power of motion (or will) (*Freie Wissenschaft und Freie Lehre*, p. 48). From this it appears, in fact, as if Häckel denied such a phenomenon as an involuntary reflex movement altogether. Now, though such an expression must call forth a contradiction from all the physiologists, for whom, by the way, Häckel has never a good word to say, still it would deserve consideration if only it were supported by any evidence derived from observation or experiment. But no such evidence is ever adduced. All we get is an inference of this sort —'Because the smallest of organisms are cells, and plainly possess will and consciousness, *ergo*, everything which is called a cell must likewise possess conscious will.' That, to be sure, may be very ingenious; but scientific, that is to say logical, the inference is not." There was much wisdom in the expression of one of the Bonn professors, with whom I had much delightful intercourse on many topics, and on this among the rest. "Yes," he said, "we're nearly all Darwinists. I don't see what else we can be at present; but I sometimes wonder what we will be twenty years hence, if the blanks between the different forms of life which fancy so easily fills up just now remain unfilled by the facts of geology and geography."

So much for the general meetings.

If now you wish to get an impression of one of the sectional meetings, you must accompany me to the Gymnasium, a public school, in one of the rooms of which the gynecologists are met. As we enter the meeting on the Thursday we see the chair occupied by an elderly obstetrician, whom we afterwards ascertained to be Professor Schwarz of Göttingen. Being seated on one of the back forms, we have not a good opportunity of seeing the various members, but at the opposite side of the room recognise the genial countenance of my kind friend Professor Winckel of Dresden. I also receive a friendly greeting from a gentleman, who has thriven so well during his rapid promotion from being a *privat docent* in Berlin to the occupation of first the obstetrical chair in Zurich, then of that in Strasburg, and now of a newly-instituted chair in Berlin, that I with difficulty recognised in the broad professor the slim youth whom I had known some fifteen years ago as Dr Gusserow. What strikes one specially, on looking around the room, is the absence of the older members of the profession. The bald head of the President, with its fringe of gray hairs, seems to be almost the only one that belongs to a man above fifty. Such fathers of the profession as Braun, Scanzoni, Crédé, Litzman, Veit, and Spiegelberg, are conspicuous by their absence.

The contributors of the various communications, instead of producing some sheets of foolscap and proceeding to read, as is the case in our Association meetings, took their place with, at the most, a slip of paper in the left hand, and often a piece of chalk in the right, beside the black board to the right of the President's table, and spoke extempore, illustrating, in almost every case, their observations with more or less effective diagrams. Not unfrequently a speaker who had finished his communication remained standing, while the subject which he had introduced was being discussed; and instead of waiting to make a general reply at the close of the debate, would answer each successive disputant.

This mode of procedure sometimes became amusing, as when Dohrn, the able Professor of Midwifery at Marburg, made a communication in which he challenged somewhat sharply statements regarding the puerperal mortality in Nassau that had been made in the report of a commission on puerperal fever, published a few months previously by some of the Berlin obstetricians. Two of those who had signed the report of the commission attempted to meet the criticism of the doughty professor; but he, keeping his place by the

President's desk, silenced his assailants one after the other in pithy sentences, which excited the admiration and carried the sympathies of the audience. At the close of the Thursday afternoon meeting, a friendly altercation arose between the President and some of the members as to the hour of meeting on the following morning. A custom which prevails at the German universities seems to be carried by the votaries of science into their Association meetings. When a lecture is announced to be given at a certain hour, it does not commence till a quarter past the appointed time; and in cases where the lecture or demonstration is expected to last for two hours, the *academische Viertelstunde*, or academic quarter-hour, as it is called, lengthens itself out to thirty minutes. There was to bé a discussion of special interest on the Friday forenoon, and the President, anxious to assemble the section in due time, announced that they should meet at eight o'clock. Immediately there was a cry around him, "Let it be half-past eight." "That's just what I mean," replied the President, "that you should be here at half-past eight, and therefore I announce the meeting to begin at eight." The dispute ended by the President announcing half-past eight as the hour of meeting, with the understanding that the members should arrive punctually. On the following morning I made my way to the already familiar room a few minutes past nine, and finding that the author of the anticipated communication was just beginning to get under weigh, I said to myself, "It's very clear none of these German colleagues have ever been taught the useful lesson of paying the fine of the absentees from the roll-call of a Royal Medical Society."

The subject of debate is the total extirpation of the uterus through an opening made in the abdominal parietes, according to the plan proposed by Professor Freund of Breslau. Although a twelvemonth has not elapsed since the operation was proposed, it has already been performed in between twenty or thirty cases, and this is the first occasion on which it is being discussed in a gathering of gynecologists. The chairman this forenoon (for a new chairman is appointed for each sitting) is the earnest and active Professor of Midwifery at Halle, Dr Olshausen, who has performed this operation twice, and thinks it entirely justifiable, though he has had the first case of recurrence of the malady. The speaker who introduces the subject is a young *privat docent*, Dr Kochs from Bonn, whose chin is seamed with a long transverse scar, a reminiscence of his early student days. He demonstrates a uterus to which, curiously enough, three ovaries are attached, and in the wall of which there is a small fibroid embedded, whilst the cervix is affected with cancerous degeneration. He gives a careful anatomical demonstration of the vascular supply of the uterus, and shows how the organ can be extirpated according to Freund's procedure without wounding the main stem of the *arteria uterina*. He is followed by Dr Veit, assistant to Professor Schröder of Berlin, who shows three preparations of Schröder's, and a uterus affected with malignant disease of the body, which he had himself successfully extirpated. The next speaker is a man somewhat under fifty, with a slight stoop of the shoulders, with the dark eye and dusky skin, and peculiar cast of features that indicate his Jewish origin. He has a good forehead, altogether a decidedly intellectual face, and is clearly a favourite with the assembled colleagues, who greet his appearance with something approaching to a cheer. It is Freund himself, who at the outset modestly disclaims any merit beyond that of putting the finishing touch to a work at which many others had been already engaged, and to which notably Hegar and Kaltenbach had made important contributions. He states that he has himself operated already on ten different patients, and as the result of his experience suggests some slight modifications, particularly as regards the abdominal incision through which the uterus is to be reached, and the situation of the ligature which is passed through the vaginal roof. He begs his colleagues in performing the operation to hold by the essential features of his method, and deprecates the introduction into the discussion of the question of the recurrence of the disease in women from whom the uterus has been extracted, seeing that surgeons are generally agreed as to the propriety of extirpating other cancerous organs, although in no case can they be certain that the mischief will not return. It is the only speech which the *Daily Journal*, so far as I have observed, records as having been followed by what the reporter calls "lebhafter anhaltender Beifall"—lively continued applause—the applause of a German audience, I may remark, *en passant*, being expressed by cries of Bravo! bravo! bravo!

The next speaker is a young man who has rapidly risen to the very front rank, till already he occupies perhaps the most coveted of the obstetrical chairs in Germany. He has the rounded face, the fair hair and complexion, and sanguine temperament of a typical North German. It is Professor Schröder of Berlin, who relates the result of three cases, in two of which the operation had been entirely successful. The operation had in each case been carried out with Freund's instruments, and almost strictly according to Freund's directions. Professor Müller of Berne relates a successful case of extirpation for carcinoma of the corpus uteri, and thinks it well to leave the cervix in cases where it was not implicated in the disease.

Another speaker, young, but portly, with a considerable amount of self-assurance, states that he also has succeeded in extirpating the uterus in three different individuals without employing Freund's instruments or attending to Freund's instructions. The section, however, manifest anything but sympathy with the views of this gentleman, Dr Carl Martin, the rather, perhaps, that all his three cases ended—and ended soon—fatally.

So the discussion gets on, the speakers generally expressing more or less warmly their appreciation of the importance of the operation, not a voice being raised in condemnation. I cannot help thinking that the absence of the older members of the profession accounts to some extent for the absence of adverse criticism. I know that when a few years ago I read a paper at our British Medical Association, advocating extirpation simply of the cancerous cervix uteri, and giving the results of several cases in which I had practised it with success, one of the English Nestors of gynecology rose to extinguish me, saying that he had listened with interest to Dr Simpson's communication, that he had frequently attacked the cancerous uterus also when he was a young man, but as he grew older he had gradually come to abstain from all operative interference.

The material brought before the section belonged more to the department of female diseases than obstetrics, and it was all exhausted in the course of the Thursday and Friday's sittings; and after Saturday I saw no more of my gynecological colleagues. Further residence in Cassel would have become insufferably dull, but for the gala appearance it began to put on in honour of the advent of the Emperor. It borrowed, to a prodigious extent, from the neighbouring forests. Not only branches of evergreens, forming arches and festoons with designs of various kinds, were hung in front of the houses public and private, and across the streets from point to point, but whole trees were let into the ground along both sides of all the principal streets in such numbers that, but for the pavement beneath your feet, you might fancy, as you walked through the streets, that you were in a fir-tree grove. In shop-windows and over doors, in beer-gardens and coffeehouses, everywhere one saw the bust of the old Kaiser set out crowned with laurel. It was interesting to explore the streets and study the different devices, the representations of Germania, the quotations from Der Wacht am Rhein, and the other more original poetic effusions in which the Casselaners sought to express their delight at the recovery of their Emperor, and their enthusiasm for the man under whose rule the German unity had been attained, and the western boundary of the fatherland extended past the Rhine. The Emperor and Empress had arrived in the end of the week, and it came to be a subject of interest to remark how freely their Majesties drove about the city, inspecting schools, orphanages, factories, and so on, amid the "*Hochs*" of pursuing crowds, as if social democracy and social democrats were all unknown. The German Parliament was assembling at that very time for the purpose of passing stringent laws directed against the social democrats, but no dark shadow of social democracy dimmed the brightness of the festive time in Cassel. Such of the members of the Association as had remained for the closing days of their work seemed to give themselves up to the prevailing current of national loyalty; and even in the business meeting, where such a burning question as the exclusion of women from the membership of the Association was brought forward on a motion by Professor Klebs, the discussion was simply relegated to the next year's meeting at Baden-Baden.

The whole proceedings of the Association were to have been wound up by an Abschieds-commers—a kind of parting supper, where nothing is eaten, but anything may be drunk, from Seltzer water to champagne.

It was announced that this final meeting was to begin at six o'clock in the evening. To give what we thought was a due allowance of "Viertel stunden," we made our way to the hall a short time after seven, to find it still almost empty, and the musicians' gallery occupied by one of the commonest of the common German brass bands. Among the people who gradually came dropping in there were but few wearers of the rosette that indicated membership of the Association. The only affable man we met proved to be himself a stranger professor from the Russian University of Dorpat, who was disappointed to see, as he expressed it, nothing but a lot of Cassel Philisters. The President and officials had gone out to present a loyal address to the Emperor, and to dine with him at Wilhelmshöhe. No one, not even a member of the acting committee who turned up, could tell when they would arrive or what would happen when they came. So, when it was half-past eight, we thought it time to go, and thus bid farewell to the Association.

Now, I can well suppose that you are as tired of Cassel by this time as I was. Let us therefore make our escape from it, and, on our way to visit some friends at Frankfort, let us spend a day at the university town of Marburg.

We are surprised, as we read the guide-book, to find that this celebrated University belongs to a town of insignificant dimensions, and containing a population of less than 10,000. It seemed the more surprising that a university, with all its faculties and associated institutions for scientific, practical, and clinical work, should be planted in the midst of such a small population, when in the city of Hamburg, which, with its suburbs, has upwards of 300,000 inhabitants, we saw an hospital with 4000 beds, but no attempt at utilizing this magnificent material for practical instruction. Perhaps the quiet of the smaller town will be more conducive to study, and will present fewer distractions to disturb the student and occupy his time. One is struck at once with the beauty of the situation. One of the spurs of the Harz Mountains, running in a south-easterly direction, ends in a rounded eminence about the height of Arthur Seat, from which a wide view is obtained of the lowlands to the south and west. The river Lahn winds past the base, and the eye can follow it for some distance down the plain on its way past Giessen and Ems to join the Rhine. The hill is crowned by a majestic castle, which has evidently been a fortress of considerable strength in bygone days. The main street of the town leads up to the Castle, and the houses have clustered round it like our own High Street here. As we traverse it, the aboriginal youngsters follow us in open-mouthed amazement at the Glengarry cap of my fellow-traveller. Twenty minutes' climb takes us to the Schloss, from which we can look down on the little town, and round some parts of it can still discern the old line of fortifications. At the base of the hill, towards the south-east, we observe different large buildings—one the Medical Hospital, another the Surgical Hospital, and a third is the Lying-in Institution, happily planted just within the walls of the Botanic Garden. In another direction lie the University Buildings, and apart from these, Anatomical and Pathological Institutes. The northern slope is covered with gardens and orchards dotted here and there with villas, some of which are the homes of the professors. There are fifty-one professors attached to the different faculties, besides *privat docents* and assistants at the different cliniques and institutes; and among the medical professors are such names as those of Nasse, the physiologist; Roser, the surgeon; Dohrn and Lahs, the obstetricians; Lieberkühn, the anatomist; Beneke, the pathologist; and Mannkopf, the physician.

The University was attended last winter session by 422 students, 100 of whom were students of medicine. The higher hill ranges to the north and east are covered with pine forests, to which the Marburg students resort to carry out the duels, the traces of which we see on the countenances of so many of our German colleagues.

As we return to town by the northern side of the hill, we can see that even in such a small place as Marburg there is some provision for the tastes of such young men as prefer what they regard as amusement to study. The word "Teutonia" over a garden gate indicates that here is the beer-garden and hall where the members of the club or corps that bear this name are wont to hold their jollifications, and whence they send out their challenges to fight with the members of other clubs. There are several such clubs bearing such designations as "Allemania," "Armenia," "Hassia," "Vandalia," etc., and the members of the various corps are at once distinguished by the different colours on their cap-bands—Teutonia, blue-red-gold; Vandalia, red-white-green; and so forth.

Perhaps you will allow me here to make a slight digression, and to say that the only club which we saw resembling those at home was in the university town of Leyden, in Holland. It was with a feeling of envy that we visited the Minerva Club there at the invitation of one of the students. One wished that one could have transplanted it and set it down beside the new University buildings here. Let us hope that the efforts which are being put forth to make provision for what has been so long felt to be a great want in connexion with our University—I refer to the Students' Club—will meet with such success that we shall soon have as useful, if not as grand, an institution as that which is the comfort and the pride of Leyden students.

This Minerva Club has an imposing frontage on the quiet street. The present building stands on the site of an older club, and has been erected entirely at the expense of the students. Of the 900 students attending the University 600 are members. The annual subscription is £2. On the ground floor is a roomy *salle à manger* or restaurant, with tables dotted up and down, and rather luxurious easy chairs. Adjoining this is a side-room for private suppers, and a large billiard-room; the flat above has a splendid dining-hall, a reading-room, and business-room for club meetings.

As we have got on to Leyden, I am tempted to go and tell you that there we had an interesting glimpse into the process which the Dutch student has to pass through before he bids farewell to *alma mater*. The medical teaching is chiefly carried on at the Infirmary and other institutions. Most of the professors in the other faculties teach at their private residences, and only a few deliver lectures in the University itself. Hence the building is not of imposing dimensions, and the only objects of interest in it are the senate-hall and the rooms connected with the graduation examinations.

On the ground floor is the public promotion room, which reminded one of the interior of a church. At one end is the rostrum or pulpit, which stands facing the seats for professors and students for graduation. The candidate, besides being tested by a series of examinations, has to write an original dissertation. But, in addition, he has to appear and give his opinion upon a prescribed subject, and defend his views. He has the option of doing this last either before the faculty in private, or the professors and students in public. If he is known to be an orator, or has otherwise gained special distinction, it is expected that he will mount the rostrum in the public promotion hall and defend his opinions against the criticism of professors and students. If he lacks the courage to go through this ordeal, he can be promoted privately in the senate-hall.

The white-washed wall of the staircase leading up to the examination rooms has given a student with artistic talents an opportunity for depicting the life-history of a Dutch student, perhaps himself, in a charcoal design as large as life. It is so cleverly executed that the white-wash brush which has removed many other abortive attempts has spared this one. At the bottom of the staircase we read "Gradus ad Parnassum." As we ascend we first see the raw student fresh from the country, and evidently carrying no small share of its verdure with him, presenting himself, portmanteau in hand, before Minerva to worship at her shrine. At a further stage two winged fairies, Pleasure and Work, are hovering over him, each holding out their respective attractions to engage his attention, while at the top of the staircase he is seen emerging from his troubles crowned with success and honour, returning home amid the congratulations of friends and the applause of his fellow-students. His eager parents stand at the door to welcome him home, and as his delighted father sees the son approaching with his diploma under his arm he stretches out his hands, exclaiming, "Tu Marcellus eris," and in the excitement of the moment fails to note that his hopeful boy is accompanied by a bear, by which the artist means to indicate that along with his diploma he has brought home a terrible lot of unpaid bills.

This staircase leads up to the senate hall and examination rooms. Opposite the latter is a small room known by the appropriate name of the sudatorium. It is here that the would-be graduate spends the anxious moments before he is called to appear before the examiners. Here he is surrounded by college friends, to whom plucking or non-plucking is now a thing of the past, who administer the treatment and tender the advice supposed to be most suitable for persons under such trying circumstances. During the time of the examinations the walls of this room are covered with inscriptions, prayers to Minerva to be propitious, and hints to trembling candidates. When the examinations are over for the season, these records of the period are effaced by the white-wash brush, which only produces a surface temptingly white for the pencils of the next batch of candidates.

On either side of the door of the sudatorium is a large charcoal sketch by the same hand which executed the one on the staircase. These give us an insight into the ordeal through which the successful candidate has to pass at the hands of his fellows after he has made his exit from the promotion-room. At this stage the student is expected to change his common cap for a tall black hat worthy of the dignity of the occasion. One sketch represents the plucked student sitting alone and disconsolate, his top hat retaining its proper form and finish. This is the *uncrushed* man, uncrushed, *i.e.*, as to his externals; his rueful face tells of an internal crushing from which he looks as if he would never recover more. In the other the successful graduate is seen making good his escape in a somewhat undignified manner from the fists of his fellow-students, which are quickly reducing his hat to the form and consistency of a pancake.

Beside the sudatorium is the senate-hall—a room not imposing in size, but possessing a valuable collection of portraits of those who have occupied the professoriate since the University was founded. Among them are to be seen the faces of such illustrious men as Scaliger, Bœrhaave, Hugo Grotius.

Three years ago Leyden University commemorated its third centenary. This gave the student talent an opportunity of displaying itself in a grand masquerade. Rather an expensive business it was, as we were told by one of our friends, whose own get-up for the occasion cost him £25. Three hundred students took part in it. The characters represented were all those of men who had at some time been connected with the University during the last 300 years. Great pains were taken and no expense spared to make the representations true to life. The scenes enacted were humorous travesties of the most important historical events which were taking place at the time when the University was founded.

But from this digression to the famous old Dutch University, let us hasten back to the Teutonia gate, not by any means to linger there, but to remark that it is usually only in his early years that the *medical* student at least yields himself to the distractions of the club. There is no necessity, to be sure, for his ever attending a lecture. All that is required beyond general matriculation at a German university is, that the student at the commencement of the session should intimate to the university clerk the classes he means to attend, and pay the class fee. At the close of the session he receives a certificate for the class, although he may never have heard a lecture. It would be a gross interference with the liberty of the subject if his professor were to ask a German class to leave their cards. In some of the clubs obedience to their rules is utterly incompatible with class attendance. Probably at the very hour when he should be going to his first class his club law compels him to attend an early liquoring under penalty of a heavy fine, and, of course, he will rather drink his beer and miss his class than pay the fine. But when he comes up for his third session, the commencement of his second *medicus annus*, the prospect of a strict examination at the close of the year warns him that he has no time for idling more, and that he must betake himself to earnest work.

The usual course of study runs on, as with us, for four years, and certainly it is absurd for any college or State to pretend to give men a qualification to practise who have studied medicine for any shorter period.

In Germany a man who wishes to become a medical practitioner has to pass some time in the course of his third year what is called a *tentamen physicum*, or examination in chemistry and physics, mineralogy, botany, zoology, anatomy, and physiology; and at the close of his studies he has to spend sometimes as much as a five months' session or semester in passing a final examination in the practical departments.

This State examination is conducted by commissioners appointed by Government at all the university towns, and the commissioned examiners, usually two in number for each subject, are almost without exception the professor and an extraordinary professor or *privat docent* in the same department. There are five "stations," as they are called, in this final examination. In the first the candidate is examined in anatomy, physiology, and pathology; in the second, on surgery and ophthalmology; in the third, on internal medicine and materia medica; in the fourth, on obstetrics and gynecology.

If we follow a candidate, say at the third station, he goes into the medical department of a large hospital or university clinique, where for a week he has to take two patients under his care. He begins on the morning of the first day with one of the patients in presence of one of the examiners, and, on the second day, with another patient in presence of the second examiner. On each occasion he makes his observation of the case, and has to make out the etiology, diagnosis, prognosis, and treatment of the disease. After he has finished his examination of the patient he goes to a room where he may remain all day long, and where, without any assistance, he has to write out a full history of the case. This he leaves with the resident physician, who hands it to the examiner next morning. Twice a day for the following seven days he must visit the patients, and keep a daily journal of their progress. The morning visit must be paid thrice in the week, at least, to the respective patients in presence of the respective examiners. Besides, both examiners, on a given day in the week, test his powers of prescribing the various forms of drugs, and his knowledge of their different appearances and properties.

If his examination in one of the subjects is unsatisfactory, he may be re-examined in it after all the other subjects are done. The fifth station, the closing oral examination, is conducted by the President of the Examination Commission, and by a special Commissioner in Medical Jurisprudence, on hygiene and general medicine.

A candidate whose marks are bad is rejected for six months; when moderate, for three. One who has been twice rejected can only be admitted to further examination by the favour of the Secretary of State. He may study in what German university or universities he pleases, and he is not required to pass his examination at the place where he has studied; but if rejected at one university he must return to be re-examined there. Up till ten years ago, in addition to passing this State examination, candidates were required to take the further steps of graduation at a university. Since 1868 this is no longer required. As these further steps consist simply of the writing of an original dissertation, and the defending orally before the Medical Faculty some given thesis, the larger proportion of German medical men still seek and obtain the university degree before settling down to practise. It will take some time, however, to show how far the fear of some of the university authorities is justified, that the relative proportion will be changed, and that gradually the larger numbers will pass from the universities with nothing higher than the mere State qualifications. Notwithstanding the institution of this one-portal system in Germany, and this nominal equalization of tests, they have become very conscious that the tests are applied very unequally by different examining boards. It is well known that candidates are passed at some of the southern boards who would have been rejected in higher latitudes. A Government commission has just the other day reported on various changes that are deemed necessary for bringing about some uniformity of examination. Had our present Parliament carried through its hysterical attempt at medical legislation, it would have simply landed us into a worse bog than that from which Germany is trying now to extricate itself.

One thing, we may say, comes very clearly out of the discussions in regard to uniformity of qualification among medical licentiates at home and abroad, and that is, not so much the necessity that candidates should come at the close of their studies to be tested by boards the members of which are utterly ignorant of them or their antecedents, but rather that during their student life they should be well trained and tested from time to time by their individual teachers. The tendency merely to learn the art of passing an examination will be unhappily intensified if the changes in the testing of candidates for medical registration follow—as we fear they are almost sure to follow—some of the lines laid down in the attempts at medical legislation already made by our present pottering Parliament. It becomes, therefore, all the more important for us to conserve and consolidate all the provision that we here possess for inducing our students not only to store their memories, but to develop all their intellectual faculties by an earnest application of them to the various subjects of their study. Among the chief of these we rank the work done in the Royal Medical Society. For in it each member must once, at least, apply himself with all his powers to master and expound some one thesis, and prepare himself to defend his opinions from the criticism of his fellows. In the process he cannot help, if he have a brain worth using, acquiring a taste, and learning something of the best methods for mastering many other subjects besides that on which he writes his dissertation out of the wide round of medicine.

I should like to say, furthermore, that the work of the Society not only tells for immediate good upon the members of it, but it reacts beneficially on the work of the classes which they attend. Their teachers cannot fail to feel it. For myself, I know I could not in any part of my course of lectures discuss my subject in a trivial spirit before a class some of the members of which have been able to appreciate the importance of deformities of the pelvis, and to discuss, as you will be this day fortnight discussing, their influence on the mechanism of labour, and the various forms of operation which they demand. And what is true of the midwifery class holds good, and must hold good, of every medical class in the University and in the associated extra-mural school.

The want of similar societies in Germany is a serious defect in their system of medical education. We look in vain through their calendars for the name of one where medical topics are likely to be discussed. Only in connexion with one university do we find mention of such a society. When I asked one of the professors what was the nature of this Cœtus Anatomicus, as it is designated, he said he had not heard anything of it, but added, "Probably there is more 'supper' than 'anatomy' about it."

We may well rejoice, therefore, in this goodly heritage which our forefathers have bequeathed to us. But, Gentlemen, such an inheritance brings with it its responsibilities. And I am here to night, with the shadows of the great men of the past behind me, to summon all the unattached now hearing me to join our membership, and to charge each present member to do his utmost not only to maintain in unimpaired efficiency this noble institution, but to hand it on with fresh renown to the coming generation.

ARTICLE II.—*Remarks on the Condition of the Cervix Uteri during the Latter Months of Pregnancy, with Translation of a Paper by P. Müller of Berne on that subject.* By ANGUS MACDONALD, M.D., Physician and Clinical Lecturer on the Diseases of Women, Royal Infirmary, Edinburgh; Lecturer on Midwifery and the Diseases of Women and Children in the Medical School, Edinburgh.

THE condition of the cervix uteri during the latter months of pregnancy has of late been discussed very eagerly on the Continent, and also to some, though a less, extent in this country. In a paper published by me in this Journal in 1876, I was led to dispute the accuracy of Bandl's recent views, and supported my statements by reference to a preparation of the uterus of a woman who died at the end of the ninth month of utero-gestation. Bandl has been supported in Germany solely by Küstner of Jena, and among us by Professor Simpson in some fugitive observations in the debate upon my paper at the Edinburgh Obstetrical Society. A large array of German observers, on the other hand, have assumed the task of demonstrating the utterly erroneous character of Bandl's views.

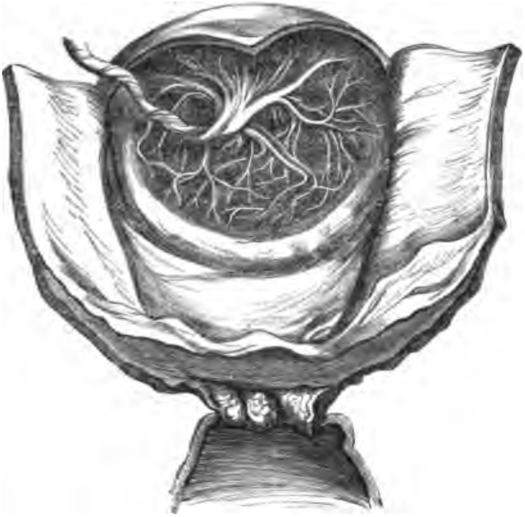
The subject is one of very great scientific interest, inasmuch as if Bandl's views could be proved to be correct, it would put an end to our notions regarding that strongly marked character of independence, both anatomically and physiologically, believed to be possessed by the body and cervix uteri, which obstetricians are never weary of demonstrating, and would prove that in respect of one function at least, and that the most important uterine function, the cervix and body undertake identical duty.

But practically, also, the subject possesses important bearings. No accurate notion of the nature of placenta prævia or of uterine rupture is attainable without a correct appreciation of the anatomy and physiology of the lower uterine segment, and of the cervix uteri. It is likewise impossible to treat these important lesions with the necessary decision and precision if we entertain hazy ideas on these important matters.

Considerations such as these have led me to translate the following admirable short paper by Müller, which was recently published in the *Archiv für Gynäkologie*, and which with so much clearness indicates the present position of the question abroad.

In translating this masterly contribution, I feel assured that I am doing far more for the formation of correct views on this important subject than I could effect by attempting another paper of my own without fresh material. As it is difficult to follow a written description of a preparation, the lithograph referred to by Müller in his account of the second case has been copied, and is given along with the paper.

That the members of our branch of the profession may derive as much advantage as possible from the preparation originally shown by me to the Edinburgh Obstetrical Society, and which is still in my museum, I take this opportunity to publish a wood-cut representing exactly the appearance of the interior of the uterus when it was laid open. In this engraving the exact relations of the cervix to the body of the uterus are seen at a glance.



It will be observed that, though this patient at death believed herself to have arrived at the end of the ninth month of pregnancy, and, indeed, to be actually at the commencement of normal labour, the active vital arrangement of the cervix was intact, as may be seen on looking at the drawing, and that the membranes, which are represented as turned up slightly in the drawing, were observed by Professor Turner to be completely adherent down to the inner os of the cervix.

It will be observed from a perusal of Müller's paper, that in Germany attention has of late been chiefly directed to the microscopic examination of the mucous membrane of the uterus in the endeavour to determine where the true cervix ends and the body of the uterus begins. The reasoning upon which this position rests may be stated as follows:—

The mucous membrane of the cervix being perfectly distinct in anatomical and physiological characters from that of the body, and being, so far as hitherto shown, incapable of becoming developed into a decidual membrane, and, moreover, as it remains essentially intact throughout pregnancy, parturition, and childbed even, we may expect greater accuracy in determining the line of demarcation by examining it, than by searching for indistinctly marked alterations in the muscular wall, or for variable levels of reflection of the serous coat, etc.

If, then, it should be found that the true decidua invariably terminated during pregnancy at the level of what we have been wont to call the inner os, but which Bandl calls the ring of Müller, and that the persistent structures recognised as characteristic of the ordinary cervical mucosa as invariably began at that level, most minds, not hopelessly warped by prejudice in favour of old-fashioned ideas, will be inclined to believe that the cavity of the cervix uteri really begins there.

It will be seen that Müller's observations emphatically maintain that such is the fact. As Langhaus is an observer whose ability and trustworthiness are beyond question, the correctness of the microscopical observations must, I think, also be granted.

Although, as stated above, and also in my first paper, it was observed that the membranes, at the time the uterus was opened, were attached down quite close to the upper edge of the cervix, I have, to make assurance doubly sure, asked Dr J. C. Ewart to examine a longitudinal section cut from the original preparation. He reports to me that he finds the mucous membrane of the cervix exactly as it is usually found during pregnancy in a multiparous woman—*i.e.*, for about one-eighth of an inch upwards from the outer os covered with squamous epithelium; for the next one-sixteenth of an inch, covered with a sort of transitional epithelium, which is a variety intermediate between the squamous and the cylindrical. Above that part up to the level of the inner os the epithelium is cylindrical and non-ciliated. The glandular and sub-epithelial constituents are found by him to exist in the usual forms in which they are met with in the cervix. But that as soon as the level of the inner os is passed, or, as Bandl and Küstner would have it, the ring of Müller is passed, the mucosa is entirely altered, and possesses the collective characteristics as to vascularity and constituent elements that are special to the decidua vera in advanced pregnancy.

As a further slight contribution to this subject, and as bearing upon the extraordinary doctrine urged by Bandl and Küstner, that above what we usually call the inner os uteri there exists between it and what the former calls the true inner os a space from which the membranes are normally separated, and which is filled with cervical mucus, I may instance an observation of mine, made a considerable time ago, and recorded at a period when I entertained no idea that such a doctrine should ever be urged.

Mrs E. G. S., the subject of pelvic deformity, antero-posterior, diameter 3¼ inches, and who had been previously delivered thrice, once by me, and twice by two other medical gentlemen in this neighbourhood, felt restless during the night between the 9th and 10th of May 1877. She was near, if not quite at, the termination of the ordinary period of utero-gestation.

I saw her on the 10th of May, in the morning. The cervix was freely traversable to the examining finger. I could feel the edge of the membranes and make out the inner os perfectly easy. The membranes were closely *attached to the walls* of the uterus all round. till within one-eighth of an inch of the upper limit of the cervix. The cervix was not appreciably shortened. The head presented. Labour began on the evening of the 11th.

But I need not record the case farther. What I want to know from Bandl and his followers is, Where was the intermediate space in my patient's case?

We had in this case a patient within two days of her natural delivery, feeling restless and uneasy, no doubt owing to the presence of the *dolores præsagientes*, and yet the fœtal membranes were still attached down to within one-eighth of an inch at least of the so-called ring of Muller.

I now proceed to give my translation of Müller's paper, which is contained in Bd. xiii., S. 150, *Archiv für Gynäkologie*, and entitled "Anatomical Contribution to the Question of the Condition of the Cervix during Pregnancy."

"In my investigations into the condition of the cervix uteri during pregnancy, I arrived in due course at the result that the old doctrine of the transition of the cervix uteri into the cavity of the uterus during pregnancy, already greatly doubted, was untenable; that the cervix, in the period named, as a rule remained intact, especially in primiparæ, and that only exceptionally, especially in multiparæ, the inner os opened and a portion of the lower segment of the ovum was pressed down into the upper section of the cervical cavity. This view, almost completely confirmed by the investigations of Zott, only slightly modified by others, has finally obtained entrance even into the text-books of midwifery. In recent times this view has met with a decided opponent in Ludwig Bandl. Firstly, at the meeting of scientists at Hamburg, and shortly afterwards in a special work, he has sought to prove that the upper portion of the cervical cavity at the end of pregnancy is considerably expanded, is taken up by the lower section of the ovum, especially by the head; that that which I had fixed as the limit between the cavity of the uterine body and the cervical cavity or os internum, was doubtless really present (called, by Bandl, Müller's ring), but that the actual internal os uteri lay much higher, nine centimetres distant from this ring, remarkably dilated within the greatly thinned part of the lower uterine segment. In a more recent publication, directed chiefly against the papers upon the same subject by A. Martin and Angus Macdonald, Bandl has gone still further, since he assumes, even for the first part of the pregnancy, a dilatation of the upper portion of the cervix, and seeks to support his views by drawings. Also, at the last meeting of scientists at Munich, Bandl asserted his view along with the exhibition of preparations. At the meeting of scientists at Hamburg I have already raised my objections, from a clinical standpoint, against the theory of Bandl, and have expressed myself in this wise, that the preparations of Bandl were probably derived, not from the pregnant uterus, but from the uterus already engaged in the act of delivery. In Munich I beheld myself further induced to inquire, Where, then, was the ring of Müller, which, according to Bandl, is made up of connective tissue, to be sought apart from pregnancy, as hitherto no anatomist had found it?"

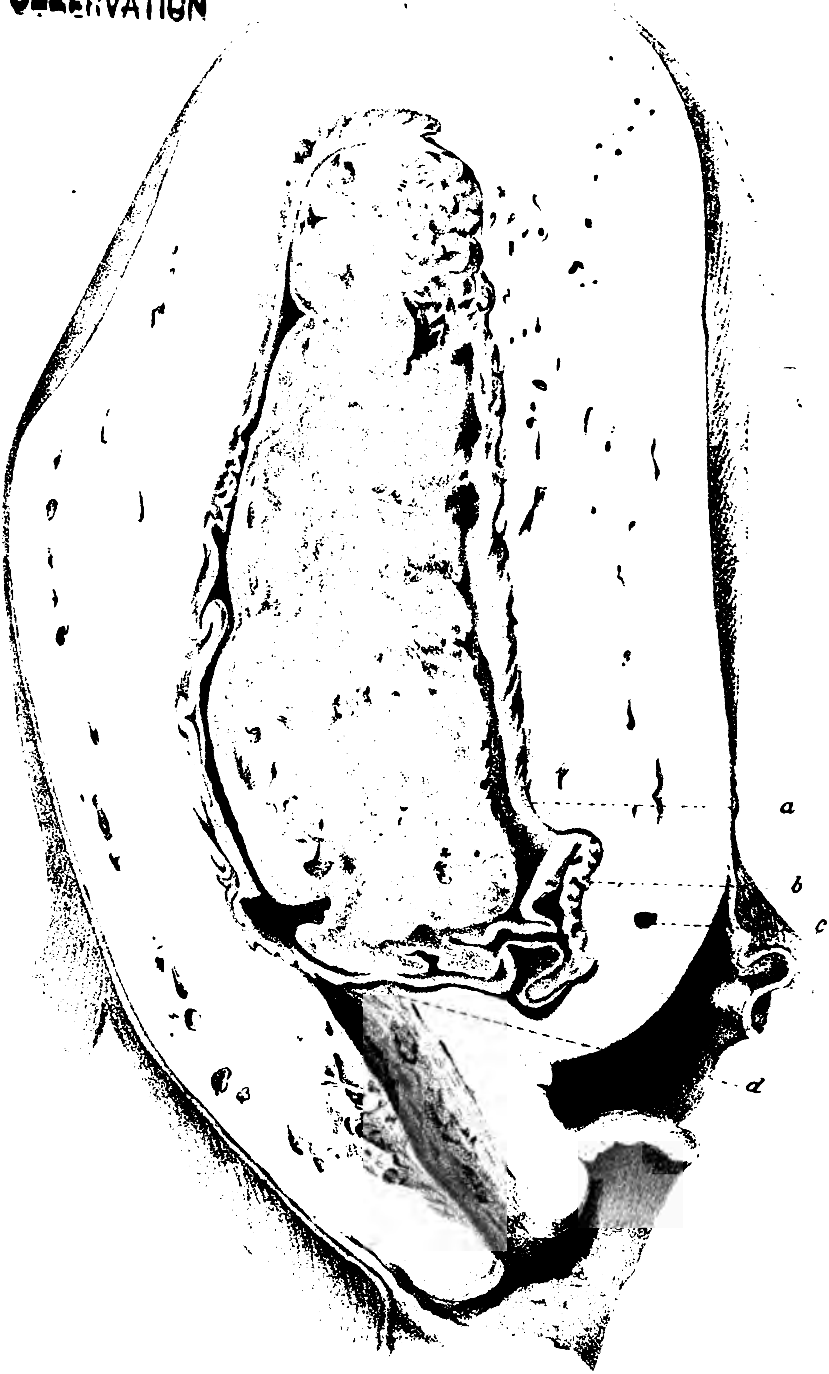
It was acknowledged on all hands in Munich that we must attempt to answer the question, as to the behaviour of the cervix uteri during pregnancy, now, first of all by anatomico-microscopical investigation. Less must be ascribed in this matter to the demarcation, which depends upon the place of reflection of the peritoneum from the uterus on to the adjoining organs, or the muscular wall of the uterus; much more must the boundary between the cavity of the uterus and the cavity of the cervix be established by the different conditions of the mucous membranes that cover the two cavities. So far as the characteristic mucosa of the cervix extended, so far would the cavity of the latter reach; also, the boundary of the cavity of the uterus would terminate at the line where the mucous membrane of the body of the uterus, transformed into the peculiar decidua vera, ceased (to exist). Leopold has already led the way with these investigations. These have in no way turned out in the direction of favouring Bandl's views. The following may serve as a further contribution:—

In the course of exploration of the collection of the Clinique of this place, I stumbled upon two preparations whose examination appeared valuable in regard to the question before us.

I. The first preparation was a pregnant uterus of the fourth month. To make a drawing of it appears to me superfluous; cervix and lower portion of the cervix have exactly the same relations as the funnel-shaped uterus of six months, sketched by Bandl in the *Centralblatt*, or as the drawing, No. 1, in his monograph already mentioned. My colleague, Langhans, had the goodness to submit the disputed portion of the preparation to an exact microscopic examination. He found below the zone—which I call os internum, but Bandl, the ring of Müller—the mucous membrane quite of the condition which belongs to the cervix; above this zone, however, upon the muscular wall, that spongy stratum, which is derived from the section of the glands of the decidua, which therefore belongs to the cavity of the uterus. Accordingly, for this preparation, that funnel-shape of the cervix assumed by Bandl is not at all applicable.

II. A second preparation of the collection, of which I here give a drawing, offers a much greater interest. It is a uterus with a rupture, which, as I will only remark by the way to Bandl, extends from the fundus on the right side downwards, without reaching the lower uterine segment. The placenta is partially contained in the

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION



uterine cavity, partially protrudes outwards through the rupture. The uterus corresponds, as far as can be judged from its size, thickness of its walls, development of placenta, etc., to the last period of the pregnancy. From the thin condition of the vaginal portion, the smallness of the os externum, it is indisputably evident that the uterus was taken from a primipara. Although to Bandl, who makes the cervix expand even in the first period of the pregnancy, this point is quite a matter of indifference, I should, nevertheless, wish to remark that unquestionably the rupture occurred with fatal result during the pregnancy, and not during the labour, since the cervical cavity, scarcely traversable by a thick lead pencil, shows no trace of an antecedent dilation.

If one considers more closely the section which divides the preparation into a right and left half, it supports the view of Bandl on mere examination with the naked eye. We perceive at *a* one prominence, and when we add to this also the elevation marked *b*, manifestly two prominences or swellings, which might correspond with the os internum of Bandl. Even the vessel at *c*, which might correspond to the circular vein of the os internum, is not wanting; further, at *d* the sudden narrowing of the genital canal, which one hitherto regarded as the os uteri, which, however, now has been degraded to a simple ring of Müller, between *a* and *d*, the intermediate section of Bandl, which might represent the upper portion of the cervical cavity distended in a funnel-shaped manner. But the microscopic examination corresponds in nowise to the conception depending upon simple macroscopic appearance. If the interior surface of the uterus, from the undisputed os externum upwards to the point *d*, is thoroughly explored by means of fine sections, one would find (according to Langhans) that structure which is characteristic of the mucous membrane of the cervix uteri; above that point however, therefore, immediately above the so-called ring of Müller, that spongy stratum of the decidua vera. The ring of Müller, therefore, forms the limit between the mucous membrane of the cervix and that of the body of the uterus. Hither, therefore, the os internum is to be transferred. A glance at the preparation makes it then at once clear that the ovum only dilated the proper uterine cavity; the cervical cavity, however, in its complete length remained closed. If Bandl for the future is not in the position to prove that not simply the uterine mucous membrane, but also the cervical mucosa, can transform itself into a decidua vera, his theory of the dilatation of the upper portion of the cervical canal is scarcely tenable.

It might possibly not be superfluous to direct special attention to the two muscular prominences *a* and *b* present in the preparation which has been sketched; might it not be possible that such prominences would be felt during pregnancy in making an internal examination, and be incorrectly interpreted as os internum?

The above lines were already sent to press when the last part of this *Archiv*, with the article of Küstner, arrived, in which the last-mentioned author — barring some slight differences — goes in decidedly for the theory of Bandl. Küstner has found in a series of preparations, that above that portion of the uterus which Bandl calls the ring of Müller, the membrane, for a distance of several centimetres, is separated from the wall of the uterus; that in the so-called intermediate space cervical mucus is found; that the mucosa of this section is distinguished as cervical mucous membrane by a manifest cylindrical epithelium. The assumption that cervical mucous membrane is actually transformed into a decidua appears to be destroyed by the observations of Küstner, and thereby the demand which I made above upon the supporters of the theory of Bandl is fully substantiated.

A third new preparation, which I investigated in reference to the question before us, in no way agrees with the representation of Küstner. The object of examination was obtained from M. M., 28 years old, who, having been admitted into the in-door Clinique of this city, died after a short residence in hospital. One could during life make out only a pleuritis and a pregnancy in the seventh month. Pains were decidedly present. The unopened uterus was frozen and then sawed through vertically in the direction from behind forwards. Unfortunately, on account of the shortness of time, it is no longer possible to give a drawing of the surface of section. I will here confine myself to a quite brief description of the microscopic conditions especially on which the chief importance rests. The whole uterus has a length of 9·445 inches. The cervical cavity up to Müller's ring measures 1·181 inch. The os externum is closed, likewise the lower portion of the cervix, measuring ·394 inch. The upper portion gradually widened out, so that at the ring mentioned the walls were separated ·787 inch. The widening out of the uterine cavity above this, particularly behind the sharply projecting ring, is then tolerably sudden. The dilated part of the cervical cavity is filled up with a mucous plug brightly transparent in the frozen condition, which reaches only to the ring named. Above the latter the membranes are distended, without projecting into the cervical canal; they shut off the latter in relation to the large uterine cavity.

The head is situated 1·181 inch above the lower pole of the cavity of the ovum. The placenta is attached to the posterior wall. After it had been hardened in alcohol my colleague, Langhans, had again the goodness to undertake the examination of the preparation, in so far as concerned the condition of the uterine walls and the relation of the membrane to them. From the fundus uteri till the point called the ring of Müller no prominence presents itself, but the muscular tissue gradually becomes weaker up to the point indicated, whilst below the latter point the cervical wall increases in thickness remarkably again up to the os externum.

The membranes are, up to the limit indicated, intimately blended with the walls of the uterus, no gap, and naturally also no mucous mass filling up any such, is demonstrable.

From the edges of the placenta to the ring the decidua exhibits the same condition. A difference between its lower and its upper portions is not to be made out. The cylindrical epithelium, so strongly asserted by Küstner, is completely wanting.

From the ring downwards, which we may name provisionally still as the os internum, to the external os uteri, the covering of the canal, even indeed microscopically, exhibited quite the character of the cervical mucosa. This condition of matters is essentially different from the results of Küstner's investigations. I wish merely in the meantime to asseverate this difference. Surely, there will be investigations, undertaken by the other side also, to throw more light upon the origin of this latter (difference), as well as upon the question in general.

ARTICLE III.—*Cases of Intra-Cranial Tumour.* By BYROM BRAMWELL, M.D., Physician and Pathologist to the Newcastle-on-Tyne Infirmary, Joint Lecturer on Clinical Medicine and Pathology in the University of Durham College of Medicine, Newcastle-on-Tyne.

(*Continued from p.* 504.)

CASE VII.—*Male, æt.* 34. *Syphilis Seven Years before Admission to Hospital. Epileptic Convulsion. Good Health for a Fortnight. Second Convulsion, unattended by Loss of Consciousness and followed by Left-sided Hemiplegia. Admission to Hospital Five Weeks after second Fit: Great Emaciation: Headache: Marked Neuro-retinitis with Perfect Vision: Left Hemiplegia. Uninterrupted Recovery under Iodide of Potassium. Good Health for several Months. Severe Head-injury. Return of Fits: Convulsions occurring every Four Minutes, and lasting without intermission for Fifteen Days. Readmission to Hospital: Great Emaciation: Bed Sores: Left Hemiplegia: Severe Convulsions unattended with Loss of Consciousness, Left Side chiefly affected. Speedy Recovery under Chloral and Iodide of Potassium. Second Relapse. Death. Syphilitic Gumma in the First and Second Right Frontal Convolutions.*

J. M., æt. 34, single, foreman bricklayer, was admitted on 4th November 1875, suffering from left hemiplegia.

Previous History.—He enjoyed good health, until seven years ago, when he contracted syphilis; the attack was, however a slight one, and was followed by few secondary symptoms. For the past two years he has suffered from rheumatic pains, which are worse at night. The present attack commenced seven weeks ago. One evening while measuring a road he fell down unconscious. He was carried home to his lodging, which was close at hand, and in about twenty minutes "came to himself," and found that he had bitten the left side of his tongue. The next day he was all right, did his work as usual, ascending a chimney forty feet high. He continued to work for a fortnight and was then seized a second time, the fit occurring as he was getting into bed. He did not lose consciousness, and was able to call for assistance. The convulsion was severe, it affected the left side, and lasted for ten minutes. When it passed off he found that he had completely lost the use of his left arm and leg. He has been in bed ever since, and has lost a great deal of flesh. He has had several attacks of severe headache. His habits have been very temperate.

The Family History is good, and free from any tendency to nerve disease.

Condition on Admission.—There is very great but not total loss of power in the left arm and leg; there is also a trace of paresis in the left side of the face. The muscles of the body generally are very much wasted, the atrophy being as marked on the sound as on the paralyzed side.

Reflex Action is greater in the right than in the left leg.

Sensibility is fairly normal, except in the parts supplied by the left median nerve, where it is decidedly impaired. His memory is evidently defective, and all his mental powers are blunted. He sleeps well. He frequently complains of headache, the pain being referred to the forehead and vertex.

Special Senses.—*Sight* is perfect; the pupils are equal and moderately dilated; marked optic retinitis is seen in both eyes. *Taste* and *Smell* are natural. *Hearing* is good for aerial sounds. He professes not to hear the skull sounds in the left ear.

Speech is natural.

The *bowels* are obstinately constipated. The *urine* is sometimes passed involuntarily; it is loaded with phosphates, but is otherwise quite normal. The *heart* is normal, and none of the superficial vessels show any signs of atheroma. The radial pulse is 64, and weak; the temperature 98° F.

Diagnosis.—Syphilitic gumma situated in the motor area of Hitzig and Ferrier on the right side.

This opinion was based on the following grounds:—

1*st*, The fact that the paralysis followed an attack of unilateral convulsions of face, arm, and leg, in which consciousness was retained—a certain indication, in my experience, of a discharging lesion in the cerebral cortex. A discharging lesion in the corpus striatum might, of course, produce the same symptoms, but I have never met with such a case. The fact that there was no loss of consciousness excluded cerebral hæmorrhage.

2*d*, The healthy condition of the heart and the absence of any cause of embolism.

3*d*, The age of the patient, 34, a strong point against cerebral hæmorrhage.

4th, The healthy condition of the arterial system and of the kidneys, also against cerebral hæmorrhage.

5th, The presence of optic neuritis, a very strong point in favour of tumour as against cerebral hæmorrhage and embolism; optic neuritis including under this term the choked disc, being the most constant and important symptom in cerebral tumour, but comparatively rare in cerebral hæmorrhage, and almost never seen in embolism.

6th, The history of severe headache.

7th, The fact that the patient had had syphilis.

Treatment.—Half a drachm of the iodide of potassium three times daily. On 6th December the dose was increased to 150 grains in the twenty-four hours.

Progress of the Case.—*4th December.*—There is great improvement; he can walk without assistance Sight is now somewhat impaired, owing to deposits of lymph about the disc. Small doses of mercury were prescribed as an addition to the iodide.

7th January.—Some headache; stomach is out of order; the iodide to be discontinued for a few days, and to have a brisk purge.

31st January.—He discharged himself to-day, saying he felt quite well. There is not now a trace of paralysis. He has gained three stones in weight since his admission. Sight is still somewhat dim. To come back as an out-patient.

14th Feb.—Says he never felt better in his life. Has been at work for a week, and has on several occasions walked without the slightest inconvenience across a narrow plank thirty feet above the ground. Was strongly advised to be careful, and to continue the iodide.

22d April.—Has continued perfectly well since date of last note, and is working regularly.

I heard nothing more of him until 23d February 1877, when he was carried into the ward, at the time of my visit, in a fit. His friends stated that he had continued perfectly well until 23d September 1876, when a scaffold, on which he and others were working, fell to the ground. His right collar-bone was broken, and he received a severe cut on the back of the right side of the head. He was laid up from the effects of this accident for a month, and during the whole of that time suffered from internal headache. At the end of a month he returned to work. He worked regularly in spite of not feeling well until 9th February when he took a fit.

The convulsion came on about 8 P.M., and lasted for five minutes. He had hardly "come out of the first when he took a second;" a few minutes after the second he took a third, and has continued to "work in the fits" ever since. They have never left him for more than five minutes at a time during the whole fifteen days. He has been quite sensible during the whole time, and has been able to take nourishment and medicine. The left side has been almost exclusively affected by the convulsions. The left side became paralyzed "after the first few fits."

Condition on Readmission.—The patient presents a most miserable appearance. He is emaciated to the last degree; the conjunctivæ are deeply injected, the eyelids gummed together by a purulent secretion; the left arm, leg, and left side of the face are paralyzed; there is a large bed-sore over the sacrum; the urine and fæces are passed without warning; the left side of the tongue is fearfully lacerated and covered with a dirty brown slough. The tip of the organ, when protruded, is turned to the left side; the pupils are contracted, vision is somewhat dim, the result of commencing optic atrophy; no recent changes are seen in the fundus. The patient is quite conscious, and when free from convulsive spasms, is able to speak freely and well. The emotional centres are not under proper control, for he frequently sobs and weeps. Epileptiform convulsions occur every three or four minutes, each fit lasting from eighty to one hundred seconds. The order of the spasms is as follows:—Both legs are first drawn upwards and slightly away from the middle line, as if the patient were going to place himself in the lithotomy position, the right leg being generally affected before the left. After the drawing up of the legs the right arm is drawn across the chest, and the left, the paralyzed arm, becomes rigid as it lies parallel with the body. The head and eyeballs are at the same moment rotated to the left. Tonic spasms then powerfully affect the left arm, the left leg, and left side of the face, the mouth being widely opened and drawn down towards the left side. Clonic spasms next occur in the left side of the face, left arm, and left leg, the right orbicularis being affected, though much less powerfully than its fellow on the opposite side. A few convulsive twitchings occasionally occur in the muscles of the right arm and right leg. The convulsive spasm after a few seconds becomes very powerful; the patient foams at the mouth, makes a cackling noise; the left side of the tongue is evidently lacerated during each fit, for the saliva is markedly bloody. As the fit passes off the head and eyeballs are rotated back to the middle line, and the pupils are noticed to be widely dilated. The patient is quite conscious during the fit. There was no doubt about this fact, for as soon as the spasm passed off he could tell what we had been talking about while the convulsion was at its height. All sorts of subjects were selected in order to test him.—The *temperature* is normal (there is no note in the case-book as to the comparative temperatures on the two sides).

Treatment.—Half a drachm of chloral hydrate, to be repeated as often as may be necessary, and thirty grains of iodide of potassium every four hours.

Progress of the Case.—On 24*th Feb.* he was in *statu quo*; only one dose of chloral had been administered, and the nurse had neglected to give the iodide.

PLATE III.

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION

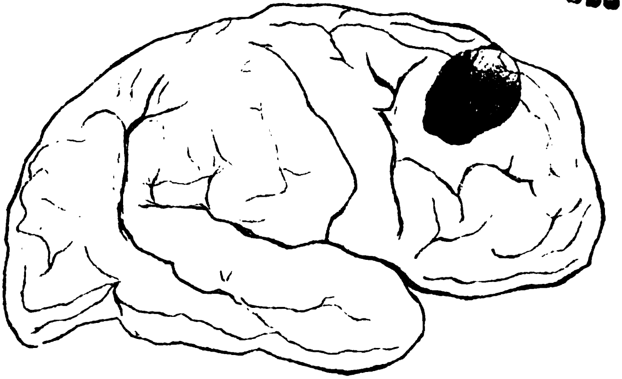
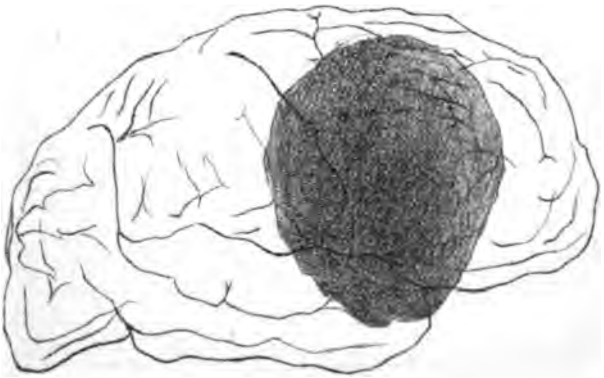


FIG. 1.—Outline of brain of J. M. (Case VII.), showing the position of the lesion

FIG. 2.—Outline of brain of M. D. (Case VIII.), showing the position of the lesion.



On *25th Feb.* he was easier, taking a fit every half-hour.

On *26th Feb.* very much better; there had only been five fits in as many hours. He said—"I have a craving for the medicine (iodide of potassium), and feel that every dose does me good, particularly that it relieves the cramps in my left leg."

On *3d March* he was wonderfully improved; all congestion of the conjunctivæ gone; the fits had almost left him, and he could move the left leg a little.

9th March.—No fit since date of last note. He looks bright and cheerful, is rapidly gaining power in the left arm and leg, in fact can get out of bed without assistance; the ulcer on the tongue is almost healed, the tongue is clean, the appetite good.

2d April.—For the last eight days has been walking about the ward; the bed-sore is almost healed; the dose of iodide has been reduced to ninety grains daily.

20th April.—He was to-day made an out-patient. He had not had a fit since 3d March; the paralysis had completely disappeared, and he looked stout and well.

In the early part of December he again turned up, saying he "felt the fits threatening." The relapse was apparently due to mental worry. The iodide was again prescribed. I heard no more of him until 2d Jan., when I learned that he was dead. Three days previously he had been seized with severe convulsions, and had shortly afterwards become insensible. Through the kindness of Dr Thornhill, his local medical attendant, I was able to make a hurried post-mortem examination.

The scalp and skull-cap were natural. The dura was firmly adherent over the fore part of the right frontal lobe. On more careful examination the adhesion was found to be limited to a circumscribed spot, corresponding to the posterior part of the second right frontal convolution. The surface of the brain at the part of adhesion was depressed, and, on cutting into it, this was seen to be due to the contraction of a new growth (syphilitic gumma). The brain tissue corresponding to the posterior part of the first and second right frontal convolutions (see Plate III. Fig. 1) was replaced by a firm, yellow, new-growth, which, on microscopical examination, presented the usual characteristics of a hard gumma (specimen shown to Medico-Chirurgical Society). The ascending frontal, ascending parietal convolutions, and corpus striatum, of the right side, and the other portions of the brain, were normal. The other parts of the body were quite healthy.

Remarks.—In this case a circumscribed syphilitic gumma, situated in the first and second right frontal convolutions, gave rise to epileptiform convulsions of the opposite side (face, arm, and leg), the convulsive seizure commencing with drawing up of both legs, as if the patient were about to place himself in the lithotomy position. The lesion corresponds to Ferrier's centre (12); "the centre for the lateral movements of the head and eyes, with elevation of eyelids and dilatation of the pupils." The case at first sight seems decidedly opposed to the strict localization of Ferrier, though it may be perhaps argued that the disagreement is more apparent than real.

It has been conclusively shown that a local spasm produced by the irritation of a particular portion of the cerebral cortex may become general by the spreading of the discharge, first to adjacent and then to more distant centres; and in this case we have only to suppose that the discharge, generated at the seat of the lesion, was a stronger discharge than is usually seen in a case of local softening, or that the adjacent and more distant centres (the centres for arm and leg) were in an abnormal state of irritability, to account for the fact that all the centres in the right hemisphere were involved at an early stage of the convulsive seizures. And that there was great irritability of these motor centres is conclusively proved by the frequent recurrence of the fits.

If the statements of the patient's friends are to be relied upon, this man must have had no less than 4320 fits during the fifteen days of the attack. And this statement is corroborated by the fact, that when admitted to hospital he was taking a fit every three or four minutes. During the first hour after admission he had at least fifteen fits. Althaus states that one of his patients had 1350 fits in a month, and mentions a case described by Delasiauve in which 2500 fits occurred in one month. These were cases of ordinary (typical) epilepsy, and it is well known that fits depending upon a local cause (coarse lesion), as a rule, occur much more frequently than the fits of the so-called "genuine" or "idiopathic" epilepsy.

It is noteworthy that, during this attack, there was no loss of consciousness. As a rule, when the fit is so severe as to cause cackling, foaming at the mouth, etc., consciousness is lost. Where, too, the fits recur with such great frequency, a condition of *epilepticism* (Althaus) is established. "There is no recovery of consciousness between the seizures, which follow each other like thunderclaps; the respiration is much accelerated; the pulse rises to 140 or 160 beats in the minute, and is excessively small; the temperature ascends to 106° or 107°; there is deep stupor and collapse, and the patient dies after two or three days, without having recovered his consciousness. Epilepticism is not, however, invariably fatal, and the most reliable sign of improvement in the patient's condition is a lower temperature."[1]

The case is a good illustration of the proposition advanced previously in this paper, namely, that the prognosis in cases of intracranial syphilis is never utterly hopeless. To anyone unacquainted with this fact, the patient's condition, when readmitted on 23d Sep. 1876, must have appeared desperate, and yet I had no hesitation in taking a somewhat hopeful view of the case.

The case is a typical one of syphilitic epilepsy—epilepsy occurring in an adult, over thirty years of age, previously healthy, the seizures being unaccompanied by the shrill cry which usually announces the outbreak of a paroxysm of "genuine" epilepsy,[1] partial in range (unilateral), unattended with loss of consciousness, and followed by temporary paralysis. We can easily understand that the syphilitic gumma which is developed on the surface of the cerebral cortex, and which gives rise to irritative (in contradistinction to destructive) changes, will, when it impinges on a motor centre, give rise to these results.

---

[1] *Diseases of the Nervous System*, Althaus, page 241.

The case further illustrates the proposition, that in cases of epileptiform convulsions, the frequency and severity of the spasms are not the factors which determine the mental deterioration which is so often seen in "genuine" epilepsy. The factor which does determine the mental deterioration is the *nature* of the centre, or portion of gray matter, which is first discharged. When the discharge begins in the highest centre—the seat of consciousness, wherever that may be—the mental deterioration is greater than when a lower centre is first discharged. This fact has been insisted upon by Dr Hughlings-Jackson, who quotes W. A. F. Browne and Jaccoud to the effect that, in cases of *le petit mal* (epilepsy in which there is no convulsive seizure, but only loss of consciousness), the mental deterioration is often greater than in cases where there are severe spasms.[2]

The case is a good illustration of the immense diagnostic value of the ophthalmoscope, and shows the necessity of examining the fundus, as Dr Hughlings-Jackson has so long taught, *as a matter of routine—i.e.*, in all, cases whether vision be perfect or not. In the next two cases which I shall report, the diagnosis mainly depended on the presence of optic neuritis, and in both vision was intact.

(*To be continued.*)

ARTICLE IV.—*Notes of a Case of Successive Aneurisms.* By HENRY STEELE, M.D.

THE following case is an unusual one, and may possess sufficient interest to justify its publication:—

J. C., a shoemaker, aged 63, came under my care ten years ago with a femoral aneurism on the left side, seated a little above the commencement of Hunter's canal. He was a temperate man and in fair health, though somewhat anæmic and nervous. Several years before I had cut him for fistula in ano. He had never had syphilis or been salivated; the superficial arteries gave no sign of degeneration, and his heart was apparently free from disease. A well-marked arcus senilis, however, existed in each cornea. On the present occasion a compress was applied, but did not receive a fair trial, for, finding it irksome, he took it off during the very first night and begged it might not be again put on. I then tied the artery at the usual place in Scarpa's triangle. Excepting that there was profuse suppuration for some time, nothing untoward occurred, and in a few weeks he was well.

---

[1] M. Fournier, *Lectures on Epilepsy*, as quoted by Dr Dowse in the *Practitioner*, Oct. 1878, p. 273.

[2] *West Riding Lunatic Reports*, vol. vi. p. 304.

He had no more trouble with his blood-vessels until fifteen months ago, when he presented himself with another aneurism at the corresponding spot on the opposite thigh. I tied the vessel as before, and he again did well enough, although the ligature remained fast till the end of the sixth week and kept up a good deal of irritation. Unfortunately, he was scarcely on his feet when he was attacked by acute rheumatism, which involved his heart and told severely on his general health. Part of this summer he spent in a Highland village, but was never able to shake off his enemy.

In the beginning of last August he again sent for me, and to my regret I now found an aneurism pulsating strongly in the left groin—the side first affected. It lay directly underneath Poupart's ligament, reaching further up than down, and was rather larger than a golf-ball. On August 11, with the assistance of Dr Lawrence of this place, I tied the external iliac, employing cat-gut and, to the best of my knowledge, every antiseptic precaution. Ether, which now for the first time was mixed with the chloroform, proved in one respect anything but an auxiliary, for it brought on most inconvenient fits of coughing, which threatened to project the peritoneum against the edge of the knife. Happily, however, there was no accident. The bleeding vessels having been secured with the cat-gut, and a drainage tube inserted, the parts were brought together by deep sutures and covered up with gauze, &c., in the midst of a cloud of spray. Notwithstanding, at the second dressing, four days afterwards, a number of putrid clots were pressed from the wound, and subsequently the suppuration was both free and offensive; nor did it cease till the end of the third week, by which time, also, the external parts had mostly healed. But an orifice still existed at the upper end of the cicatrix, and a portion an inch long remained ununited at the lower, while a probe could be passed deeply up along the track of the wound, and down towards the pubes. Having now left home, I did not again see the patient for a fortnight, and at the end of this time, finding but little improvement, though pressure and strapping had been steadily applied, I pared the ununited edges and brought them together with pins—partial union only ensuing.

On September 30, exactly fifty days after the ligature of the vessel, a new and serious symptom made its appearance. Bleeding from the wound took place, and recurred at intervals during the next two days. It was small in quantity, but was followed, on October 3, by a gush of several ounces, and next day by another also profuse. It now became evident that the man must either have his common iliac tied or die; but there was, besides, the too probable contingency that there might be no alternative after all. Being very conscious of this, I was not at all eager to operate, and as he was pretty well when I saw him on the forenoon of the 5th, I determined, without doubt improperly, to wait. What was inevitable, of course, ensued. In the evening there was a more alarming outburst than ever, and by the time I arrived, along with my friends Drs Lawrence and Watson, he was in a state of collapse. Stimulants, however, having restored him, a little chloroform was administered, and a compress placed over the aorta. Following the line of the old incision I reached the peritoneum, and had no great difficulty in separating and pushing it back. My fingers were on the lumbar vertebræ and the psoas, and I was just beginning to feel for the vessel, whose pulsations were checked by the compress, when the poor man's expression became so deathlike and his pulse so totally failed that I was obliged to stop. He died, without much more bleeding, an hour and a half afterwards.

Two days later I made an examination of the localities concerned. Before opening the abdominal cavity a quantity of blood external to the peritoneum was sponged out. The abdomen was then opened and the intestines removed. The peritoneum on the left side was deeply stained with blood. Having separated it from the parts below, I divided the aorta a few inches up, and dissected it out along with the common and external iliac arteries, and a portion of the femorals on both sides. The dissection was accomplished without difficulty on the right side, but on the left, from halfway down the common iliac onwards to the groin, everything was so matted together it became necessary to remove the parts around as well as the vessels themselves. On examining them afterwards the inguinal aneurism was found shrunk, and occupied by a tough, yellow, slightly laminated clot. Amalgamated with it, and reaching nearly to the point, some two inches higher, where the tube of the vessel began to be obliterated, was a firm, round, red clot, filling the entire canal, adhering to its walls, and dyeing them its own colour. The obliterated portion was transformed into a mere fibrous strand an inch or more long. It was not attached to the clot below, and above, the channel of the artery was clear throughout the short remaining part of its course. Immediately beyond its commencement, however, and in a measure connected with it, though more with the outside of the common trunk, there lay a small aneurism no bigger than a walnut which had given way. The rent was large enough to admit a penholder, and was unquestionably the source of the hæmorrhage, no other aperture being anywhere present. On looking into it the external coat was seen thickened by coagulated blood, and the inner coats conjoined were lying quite separate from it with an abrupt margin extending only a short way into the sac. These coats were atheromatous and completely dissected away from the outer one, saving for a few trifling adhesions, as high as the aorta, and blood had evidently lodged between them, as it had stained their opposite surfaces. The aorta itself, the iliac on the right side, and the femoral above where it was tied the previous year, were all similarly, though not so badly affected. Long strips of organized clot occupied the femoral arteries above and below the seats of ligature.

It is needless for me to enter at length upon the topics the case suggests, as there are none of them which have not already received ample attention from those who have studied the subject. Why the wound so stubbornly refused to heal I cannot tell with certainty, nor do I know whether the want of primary union, the disturbance of the deep seated parts, or the ligature of the vessel, were each or all of them in any degree responsible for the formation of the final aneurism. They may have contributed, but that vessels such as those described could have long held together was in any case impossible. It is, indeed, a question whether, in a decided example of "aneurismal diathesis," there is much use of repeating ligature after ligature. At the same time, it is perfectly obvious that, if I hoped to do any good in the present instance, I should not have deferred the last attempt so long. There were weighty reasons for doing nothing at all, but, on the other hand, one slender chance still remained. However desperate the proceeding, the main artery could be reached—at least I thought it could, though in this, as it happened, I was not very far from being mistaken; for, had the aneurism, of whose existence I was unaware, been a larger one it might have opposed a very effectual barrier. I should, therefore, after the first severe bleeding, either have tried to secure the vessel at once, or have definitively resolved to let it alone. The only apology I can make is, that while the hopelessness of the operation deterred me, it was extremely painful, at the last, to see a man bleeding to death without making an effort to save him. In such a case I think the old silk thread might be more useful than cat-gut, as it would afford the artery longer time to contract adhesions, which, when the inner coats were able to render so little assistance in the formation of a lymph-plug, could not be other than a desideratum.

Professor Spence, to whom I submitted the preparation, has done me the great favour of examining it. His account of the femoral and left external iliac arteries is very similar to my own. "The inguinal aneurism," he says," is cured, and at the point of deligation of the external iliac all the essential hæmostatic changes have been perfectly completed. The unhealthy state of the vessel begins with a small aneurismal dilatation just about the bifurcation of the common iliac. On the posterior wall of this small sac there is an irregular rounded aperture, apparently caused by ulceration, round some atheromatous patch. This aperture is evidently the source of the bleeding.

"I should think it very likely, that after the ligature of the external iliac the obstruction caused to the onward current had induced distention of the diseased portion higher up, and that the point already weakened by atheroma had yielded, and thus led to the bleeding.

"If this view be correct, the case has important bearings on Brasdor's method of operation in aneurism. In most cases of distal ligatures it is true, generally, that the impulse in the sac has been found diminished instead of being increased; but if there be any specially weak point in the sac, or, as in your case, special difficulties in the collateral circulation, the impulse may be sufficiently strong to produce a rupture. Your case, therefore, presents features of considerable practical interest."

ARTICLE V.—*The Post-Mortem Appearances in a Case of Chronic Insanity; Hydrocephalus; Absence of Corpus Callosum.* By JAMES MACLAREN, L.R.C.S.E., Medical Superintendent Stirling District Asylum, Larbert.

IN the following short notes I have purposely avoided making comment, or indulging in amplification of any kind. The case is, I venture to think, a suggestive one, but the points capable of being deduced from it are so numerous and so diverse that one would soon pass the limits of a paper, and still have made barely the slightest progress. Therefore I have thought it best to describe it as shortly as possible, leaving the "application" to be made according to individual opinions or experience.

The family history of the case is as follows:—Father is still alive, a healthy man, earning his living as a common labourer. Mother died of dropsy and heart-disease, but during most of her life is reported as having been a healthy woman. Grandparents on both sides were long-lived, healthy, robust people. The patient was the third in a family of seven. The eldest is a female, stout, vigorous, married, and has a family of eight, one of whom died in infancy of hydrocephalus. The second was a boy who died when about six months old of hydrocephalus. The fourth, fifth, and sixth are females, all healthy, and still living. The seventh was born prematurely between the seventh and eighth month, and died when a few weeks old.

The sister older than the patient is, as has been said, stout and vigorous. Those younger, though healthy, are markedly of a different type from this one, being somewhat ill-developed, thin, pale, and timid-looking. Their children, too, are described as excitable and of nervous temperaments. One of them died in convulsions after scarlet fever. There is no history of syphilis in the family.

The patient was admitted to this Asylum on 16th February

1872, aged 28. The medical certificates stated that she was liable to frequent paroxysms of excitement; that she bit herself, and attempted to do the same to those in charge of her.

The history given with her bore that she had been a healthy infant born at the full time, after an easy labour, at which no instruments were used. No mishap of any kind occurred to mother during pregnancy. At the age of four months the patient suffered from an attack of "water in the head." From this she partially recovered, but severe traces of it remained. As she grew she was found to be deaf and dumb, to be lacking in general intelligence, to be unable to take care of herself, and to require constant watching and care. At the age of twelve, epileptic fits began to attack her from time to time. These recurred at intervals until she reached the age of twenty, when they entirely left her. During this time she was, according to the statement of her friends, quiet, docile, and free from excitement. After this, however, she gradually developed decided fits of irritability, and these, along with the excessive burden she inflicted on her friends, induced them to have her placed in an Asylum. Had she been a person of wealth or with well-to-do relatives she could easily have been managed outside in the care of an intelligent nurse. The following is her condition as I found her in July 1876:—

She was greatly emaciated, with a worn, old-looking face. She invariably sat with her legs drawn up so as to be brought almost on a level with her shoulders. She rested her chin on her knees, and sat thus constantly gazing before her with a fixed, unaltering, dull stare. Her appetite was vigorous. In her habits she was very dirty, paying no attention whatever to performing natural functions decently. She was deaf and dumb, a shrill scream being the only approach to articulate sound she was ever known to make. Her sense of sight remained, and also that of taste, this latter evidenced by the marked preference which she showed for certain kinds of food over others. Reflex action was exceedingly dull, and so was sensation. Her power of motion was very limited, and she could only walk with assistance, her gait resembling that of a hemiplegic patient dragging the left leg. Her hands were generally clasped round her knees as she sat, but she seldom seemed able to put them to much voluntary use. Measurement of the head was not made, but it was noticed as being small sized, but symmetrical, with high, intelligent-looking forehead.

At times, if annoyed, she would weep and cry bitterly; on other occasions she would wax irritable, and bite at those near her, screaming discordantly. Now and then, without provocation or any apparent wrath or excitement, she would tear her clothes into shreds. With these exceptions, and they were somewhat rare, she lived on heedless of all around, and altogether quiet. She seemed to brighten in her looks at the approach of those who brought her food or attended to her wants, but this was all the knowledge she displayed of those around her. On no occasion, so far as can be ascertained, did she ever show anything resembling intelligent regard for herself, or exhibit any forethought or any observation of passing events. Her friends' visits never appeared to bring her either pleasure or the reverse. No kind of occurrence in her presence ever seemed to attract her attention or rouse her from her apathy.

Last spring the "insane ear" was developed on the left side. This ran the usual course, discharged, and then shrivelled up. About this time, too, her emaciation became excessive, notwithstanding the fact of her still taking large quantities of food. About a month ago an attack of acute bronchitis completely undermined her strength, and she died on 27th September.

Post-mortem examination was made two days after death. Body was greatly emaciated, and decomposition had already set in.

Head.—The calvarium was of normal thickness, but remarkably hard and dense in structure. The sutures were all firmly closed.

Brain.—Dura mater was firm, strong, and non-adherent. This having been slit, the visceral layer of the arachnoid was seen to be at some parts dim and opaque, but through its greater extent it preserved its ordinary glistening, transparent appearance. Over the outer surface of both hemispheres the pia mater was non-adherent to the underlying brain substance, but along the margin of the great longitudinal fissure it became thickened, and was firmly attached, and when pulled off, left a rough nodulated surface on the brain at that part. On stripping the brain of its membranes the sulci were seen to be of ordinary depth, but the convolutions were extremely thin and narrow. They were thickest superiorly, where they measured about a quarter of an inch across, diminishing inferiorly to about an eighth.

On making superficial examination of the base of the brain, it was noticed that there was a bulging of the interpeduncular space, which, including the corpora albicantia and tuber cinereum, was seen to be membranous, and presented a gelatinous, pellucid appearance, evidently due to an accumulation of fluid in the third ventricle.

The brain having again been turned round, and the hemispheres separated, in place of the transverse commissural fibres of the corpus callosum, all that could be seen of the organ from this point of view was a thin white membranous structure, the fibres of which ran anteriorly and posteriorly, and had, when the brain was compressed, an undulating surface due to fluid underneath.

A section of the brain was made some distance above this band of fibres, when it was found that the knife had entered the roof of the lateral ventricles, which were greatly enlarged, and contained eight ounces of thin, watery, colourless fluid. The size of the cavity on each side was measured, and found to be on the left side antero-posteriorly 7 inches, on the right 6 inches. Transversely the floor of the left measured 3½, on the right 3. The septum lucidum was entirely absent, and there was free communication between each ventricle.

The position of the corpus callosum was now fully exposed, and that organ was found to be almost entirely absent, nothing of it remaining except two narrow belts of neural matter—one at the anterior, and the other and smaller at the posterior extremity. The anterior belt measured three-quarters of an inch across; the posterior, one quarter. The membranous band, already referred to, sprung chiefly from the posterior attachment, radiating in a fan-shaped manner over each ventricle and lining its cavity, and appeared to be simply the serous membrane, ordinarily found in this region, rendered more prominent by the disappearance of the other organs.

The body of the fornix was also absent, but anteriorly and posteriorly two bands of nerve matter arose from the white membrane, and dipped down, the posterior entering the descending horn of the lateral ventricle, the anterior descending immediately behind the anterior belt of remaining corpus callosum. These offshoots probably represented the pillars of the fornix, the body being wanting, along with the portion of corpus callosum covering it.

The cavity of each lateral ventricle was enlarged at the expense of the white substance of the brain, of which the quantity was very small, merely serving as a thin lining membrane inside the convolutions. The thickness of brain substance between the bottom of any one sulcus and the cavity of the ventricle at no point measured more than half an inch.

On the right side the optic thalamus and corpus striatum adjacent were softened, and breaking down into numerous little pits and caverns extending below the surface of the ganglia to some distance. This was not seen on the left side, but the whole tissue at this part of the brain was soft, and in a state of disintegration. The foramen of Monro was widely dilated, and where the cavity of the third ventricle had been exposed, it was seen to be shallow and broad, the three commissures, however, being still intact.

The weight of entire encephalon was 52 ounces; on the fluid being drained away it was 43.

There is nothing of interest to detail regarding the other organs. There was emphysema of both lungs, with tubercular cavity in left apex. In the heart there was retraction of the mitral valves. The liver was in the condition designated " nutmeg liver."

ARTICLE VI.—*On Croup: Its Nature and Treatment.* By JOHN MOIR, L.R.C.P. Edin., etc.; District Medical Officer, West Ham Union, London.

(*Continued from page* 517.)

The general absence of ulceration distinguishes both croup and diphtheria from cynanche maligna, or putrid or ulcerative sore-throat, the angina maligna of Fothergill and the old authors. But they may be found in conjunction with it, or with one another, increasing the danger to be apprehended from one alone.

Dr Ewing Whittle of Liverpool divides croup-like affections into seven :—

1st, Cynanche trachealis of Cullen, true croup, with the formation of false membrane, the croup we are here considering, and supposed by some, as we have seen, to be always diphtheria; but as we have shown this is not really so, but an allied and distinct disease.

2d, Angina stridula of Brétonneau, pseudo-croup of Guersant, the acute asthma of Miller, characterized by remissions not usual in croup, inflammatory to a very great extent, but without formation of false membrane.

3d, Croup complicated with diphtheria, diphtheritic croup.

4th, Sympathetic croup occurring in exanthemata, disappearing when the eruption comes out. This was once observed by the writer in a case of measles in Edinburgh in 1864.

5th, Croup caused by an ulcerated condition of the larynx, either following the ulcerated sore-throat of scarlatina or variola, or syphilitic (as in a case of the late Dr Gregory of Edinburgh).

6th, Mechanical croup, from a puckered condition of the glottis from œdema, etc. (Murchison on *Continued Fevers*, p. 504), from scalding from hot fluids, etc.

7th, Nervous croup, laryngismus stridulus of Mason Good. Here, and in most of the other forms not diphtheritic, chloral hydrate is a specific remedy, as croton-chloral hydrate is said to be in whooping-cough.

The true nature of croup has now been pointed out, namely, that it is an inflammatory affection of the trachea and larynx, with the formation of a false membrane, distinct from other diseases apparently but not really identical, especially so from diphtheria, although the diagnosis is often by no means easy, and the two affections are frequently combined,—distinct also from acute laryngitis, asthma, cynanche maligna, and others above mentioned,—more or less liable to be mistaken for it, particularly laryngitis; for Dr E. L. Fox, in the St George's Hospital Reports above quoted, remarks, "that a form of croup exists non-membranous, often terminating in the pouring out of pus, and often fatal." Sir Thomas Watson, in his early lectures, limited it to "that portion of the air-passages which lies between the laryngeal cartilages and the primary bronchi, in other words, to the windpipe. In a few cases no adventitious membrane has formed, the inner surface of the trachea is merely tumid and reddened, and covered with viscid mucus or perhaps a shred or two of concrete albumen here and there; but this must certainly be of rare occurrence in cases of true croup." But in the latest edition (1872) he asserts that, in common with nearly all British physicians, he has erred in considering true croup as non-diphtheritic. "Croup," now says Sir T. Watson, "is laryngeal diphtheria, distinguished by the presence of false membranes from inflammatory or false croup, called also simple or catarrhal laryngitis, or stridulous laryngitis." Sir Thomas Watson now holds with Sir John Rose Cormack (*Edin. Med. Journal*, Sept. 1876) and others, that in this country the term croup has been applied to three distinct forms of disease—1*st*, Spasmodic croup, the seventh of Dr Whittle's series above mentioned; 2*d*, Inflammatory croup or infantile laryngitis, a catarrhal affection of the larynx, not contagious, and not resulting in the exudation of false membrane within the larynx; 3*d*, Diphtheritic croup, true croup, or membranous laryngitis, *the exudation of false membrane being always the result of the specific, general, and contagious disorder diphtheria.* True croup, then, accompanied by false membranes in the larynx, is always diphtheritic, whether in the child or the adult, and simple laryngitis or inflammatory croup is never associated with the exudation of false membrane. Our error, then, formerly consisted in combining the history, the symptoms, and the treatment of acute laryngitis with the morbid anatomy of diphtheria. These views, first enunciated by Brétonneau, Empis, Guersant, Trousseau, etc., in France, are now adopted by Sir T. Watson, Sir W. Jenner, Sir J. R. Cormack, Dr Semple, Dr George Johnson, and other physicians of the highest eminence, yet they do not meet with much favour in this country, and we cannot, in the face of such opinions as Begbie, Sir W. Gull, Sanders, Fox, Jabez Hogg, Spence, Greenhow, Habershon, and a host of others, and confirmed by our own humble experience during the last twelve years, assent to the identity of the two diseases. Daviot goes so far as to say "Croup is non-contagious, and diphtheria and croup are the same; therefore diphtheria is non-contagious." Surely this is sufficient condemnation of the identity theory from one of its most ardent supporters. We shall also see that the treatment is essentially different, so that the chain of evidence is complete as to the non-identity of croup and diphtheria. Having now shown the nature of croup, what it is and what it is not, we pass on to the next stage of the inquiry.

II. THE CAUSES OF CROUP.

This part of our subject is involved in great obscurity, and it is a matter of difficulty, if not indeed, as far as is at present known, of impossibility to determine why in this particular inflammatory affection an exudation should form differing from that usually found in ordinary inflammatory attacks even of the same parts. The formation of false membrane is, as we have seen, the peculiar characteristic of this disease. It is found in other animals besides man, poultry in particular are very liable to it; and when we see that it is an exudation caused by a local inflammation apparently of a peculiar and unique character, the *modus operandi* of which has been already described in accordance with the views of Rokitansky, Paget, Carpenter, Burden Sanderson, Wharton Jones, etc., we have now further to consider whether there are any predisposing or exciting causes favourable to its production.

Here the ground is a little clearer, but by no means certain. Damp, undoubtedly, is the greatest factor in the production of croup. Dampness, then, cold easterly and northerly winds, possibly also bad drainage,—in fact, all the influences producing catarrhal affections must be included amongst the causes of croup. Dr Arthur Mitchell, one of the Commissioners in Lunacy for Scotland, in his valuable tables on Medical Meteorology, contrasting the results with mean temperature through a long series of years, clearly demonstrates the inverse relation of temperature and mortality, and shows that the law holds apparently without exception for diseases of the respiratory organs. Dr W. Lindsay Richardson, for some years in chief charge of Ballarat hospital, along with other Australian practitioners, holds that dampness is the chief cause of croup in Australia. He found it very common there, particularly on badly-drained lands during the wet season. In Canada, and wherever the disease prevails, this is uniformly the case. Dr Alison found washerwomen's children very liable to it; sitting or sleeping in a newly-washed room may cause it. Exposure to the night air is another common cause of croup; the want of skilful, conscientious, and attentive nursing, insufficient or unsuitable clothing, and the like, may cause an attack in delicate children, although, strangely enough, it often seems more liable to attack robust, ruddy children, and boys rather than girls. It is very apt to return on any slight exposure to cold, but usually it is not then so severe, the first attack being generally the worst, although in the spring of 1865 I had a case which succumbed to the second attack, after recovering well from the first. In winter and spring, when the weather is wet, cold, and windy, it is commoner than in other seasons, and it is most prevalent near the sea, where the air is full of moisture, and in northern more than in temperate regions; it is also common in inland districts of a damp marshy nature, and the estuaries of rivers, in rural more than in urban districts.

Croup is peculiarly a disease of infancy from the age of two years to that of ten, one to seven other observers put it; but many cases have been narrated of the affection occurring even in new-born children, and in children at the breast. There are, notwithstanding, very few cases in the first year of life, more in the second, probably owing, *cæteris paribus*, to changes in the diet after weaning. Diphtheria, on the contrary, is more generally a disease of adolescent and adult life, but there are exceptions, and even croup is not unknown after the age of puberty. Trousseau performed tracheotomy in croup in a woman forty years of age; Dr J. Warburton Begbie in 1861, Sir T. Watson, Dr Robert Bruce of Edinburgh, etc., have met with cases of it in adult life. Washington is said to have died of croup. Similar cases are recorded by Jurine of Geneva and Albers of Bremen, who divided the great prize offered by Napoleon I. for the best memoir on croup, on account of the death of his young nephew, son of Queen Hortense and grandson of Josephine, from this affection. But these last may have been cases of laryngitis.

Croup is essentially a sporadic affection, then, arising from damp; diphtheria is a contagious disease not specially caused by damp, but, like scarlatina and typhoid fever, a specific fever of a zymotic nature, arising from special insanitary conditions, as Dr Wynter Blyth, medical officer of health for North Devon, has pointed out in the *Brit. Med. Journal* 1876, and as held by Dr Carpenter, Dr West Walker, Dr W. Roberts, Farr, Allen Thomson, etc. This is the direction in which we believe the only progress as to the production, nature, etc., of diphtheria can be made, and a rational system of treatment founded thereon be established. It may be too much to say that croup never occurs as an epidemic in this country, but I have never seen it in that form or heard of it, although I have seen it in not a few instances attacking children in the same family, either from the above exciting causes of dampness, etc., or from some idiosyncrasy predisposing certain children of one family to take this affection more readily than children of another family differently constituted, namely, hereditary tendency, of which I have already given an instance in the practice of Mr Jabez Hogg. This tendency is never observed in diphtheria. On this point Mr Hogg adds, "I will only venture one other remark by way of answer to Professor M. Roger's incongruities, that while both diseases are highly contagious and inoculable, they are one and the same disease, neither peculiar to children nor adults, as they are equally sporadic, epidemic, and endemic." In so far as my experience enables me to speak authoritatively, and with, I hope, the authority of a large number of the profession, I answer, that while one disease—diphtheria—is decidedly epidemic and endemic, attacking persons of all ages, but mostly after early childhood is passed, the other—croup—is essentially sporadic, not communicable, or only where there is a family predisposition, and is rarely seen after childhood is passed, that is, in children much above seven years of age. From this very brief inquiry into the causes, we now proceed to point out the characteristic symptoms of croup.

III. The Symptoms of Croup.

Of course all the symptoms hereafter mentioned do not occur at once or altogether in every case, or perhaps in any case of the malady, for many may be absent or occur differently in different cases, still, there is one or more always present sufficient to indicate the nature of the attack, so that without loss of time the proper means may be used to get rid of the false membrane and to alleviate such other symptoms as may be likely to require either the ordinary or special treatment.

Croup usually comes on in the night, and is generally quite sudden in its onset; or a day or two before the attack the child is languid and fretting, inclined to sleep, with the eyes full and heavy, and there is cough, which from the first is of a peculiarly shrill character, and in a day or two becomes more violent and troublesome as well as much shriller. The symptoms of true sporadic croup, however, differ materially in this point from spasmodic croup,—laryngismus stridulus (the affection for which it is most apt to be mistaken, or *vice versa*),—in that in this affection the respiration itself is *not* difficult from the very beginning, whereas in spasmodic croup this is invariably the case. In the spasmodic croup fever and inflammation are not present, there is no hoarseness, it is intermittent, the breathing is quite free during the remissions, there is no sonorous sound in the windpipe during sleep, the glands of the neck are often swollen,—in all these points, and also in the treatment, it differs most essentially from true croup. Not to mention others, Dr Marshall Hall, and Dr F. Pauli, Wurzburg, have given good descriptions of this laryngismus stridulus, or child-crowing.

There is in croup more feverishness and hoarseness than in catarrh, and the patient is more severely agitated by every attack of cough; the face swells and flushes, and the eyeballs protrude; the frame trembles all over; and at the end of each coughing fit there is a sort of convulsive and noisy effort to renew respiratory action. As the malady increases there is greater difficulty of breathing, accompanied with much pain, and usually or occasionally slight swelling and inflammation of the tonsils, uvula, and velum palati; but the fauces are not usually swollen in this affection, at least not to any extent such as is the case in laryngitis. Then we have a feverish expression; the countenance is very much injected; and the head is thrown backwards in agony to escape the danger of suffocation. We have also not only an unusual brassy or ringing sound produced by the cough itself, but after either, the expiration is of a ringing kind, and inspiration is performed with a hissing noise, as if the windpipe were filled up with some light, sponge-like substance, producing the characteristic crow like the crowing of a cock, or, as some have said, like the sound of a piston forced up a dry pump. The cough is generally dry, harsh, and brassy; the voice either entirely lost or much altered, with great dyspnœa; no expectoration, or if anything is spat up, it is generally pus-like, or oftener filmy shreds, resembling pieces of a membrane. But where, from great nausea, there is frequent vomiting, coagulated membraniform matter is thrown up along with glairy mucus, and sometimes streaks of blood, though the latter is most unusual. Combined with these characteristic symptoms, as they may be called, we have great thirst, uneasiness, and a feeling of heat and increase of temperature all over the body, extreme restlessness and disinclination to remain in one position or place, with frequency and hardness of the pulse.

Sometimes, but not so frequently as in spasmodic croup, the symptoms undergo slight remissions and exacerbations. There is usually no difficulty in swallowing, though deglutition undoubtedly may aggravate the symptoms, especially in an advanced stage of the disease. In the advanced and in the last stages of the disease, we have the pulse irregular or intermittent, the respiration becoming more stridulous, and being performed with still greater difficulty, with spasms of ineffectual coughing, constantly increasing obstruction to the breathing, tossing, anxiety, and extreme suffering, finally succeeded by gradual insensibility or convulsions, followed by death *after* an inspiration. "The breathing having been for some time seriously interfered with, and aëration of the blood imperfectly performed, untoward results begin to manifest themselves in both lungs and brain—congestion, followed by serous effusion. The threatening of asphyxia is aggravated by threatened supervention of coma."—(Miller, late Professor of Surgery, Edinburgh University.) The paroxysms of croup and dyspnœa are doubtless caused, as Schlantinann asserted, by *paralysis* of the laryngeal muscles, and *not* by *spasm* of these muscles. This is also the opinion of Dr Alfred Vogel, Professor of Clinical Medicine (University of Dorpat, Russia), and others. The condition of a patient with croup is compared to that of an animal whose pneumogastrics are divided or paralyzed. "This takes place by a *reflex action*, in the performance of which the *superior laryngeal* is the *incident*, and the *inferior laryngeal* is the *motor* nerve."—(Dr John Reid's *Researches*, p. 114.) Legallois (*Sur le Principe de la Vie*, 1812) says—"C'est donc bien réellement en paralysant les muscles aryténoïdiens et en relâchant par là les ligaments de la glotté, que la section des nerfs recurrens produit la suffocation." In Dr Marshall Hall's *Lectures on the Nervous System*, 1836, p. 76, it is stated that it depends on *spasm* of these muscles produced by *irritation* of the recurrent nerves, and is "obviously a part of a more general spasmodic affection." It is apparent, however, from experiment, that severe dyspnœa amounting to suffocation may arise from both causes. At death the bottoms of the feet have become black and hard, and the face is either pallid or bloated according as the disease has terminated either in syncope or apnœa.

IV. THE TERMINATIONS OF CROUP.

When croup terminates favourably it is by resolution of the inflammation from the free expectoration of the false membrane, thus relieving the dyspnœa and spasms, and restoring the natural tone to the voice. With regard to the causes of death in croup, I here quote the very able description of Dr Richardson:—"In croup of the inflammatory type *death* may and does occur either from an obstruction in the heart (syncope), arising from the right cavities of that organ being the seat of a fibrinous deposit, or from an obstruction in the windpipe (apnœa) arising from over-secretion; or, lastly, from a combination of these causes, as happened in a case related to the Medical Society by Dr Hawksley, where the local mischief produced death, while yet the fibrinous concretion was becoming developed, and before it had materially impeded the circulation. Holding, then, these views on the causes of death in croup . . . I maintain . . . the symptoms about to terminate in syncope, the result of cardiac obstruction, are distinct from those arising from obstruction in the air passages. The differences are these:—In the cases of syncope from arrested circulation, the dyspnœa is not caused by obstruction in the larynx, but by the peculiar anxiety and gasping desire to breathe, incident to the want of blood in the pulmonic circuit. In this case, therefore, if the stethoscope be carried from the upper part of the windpipe downwards, and over the whole chest, the respiratory murmur is audible, and, it may be, clear throughout, so that the observer is prepared to say that there is here no such deficiency of respiration as will account for the severity of the symptoms. Again, the most common physical pulmonic sign in these cases is that of emphysema, which is often accompanied in very young children by a peculiar prominence in the anterior part of the chest; *this emphysema when present is strictly diagnostic of fibrinous obstruction*, and is altogether subversive of the idea that the cause of the symptoms is an obstruction of the windpipe. In addition, there are in these cases the definite signs which mark the cardiac obstruction. The body is cold, and generally pale, almost marbly, but mostly so at the extreme parts. The lips are slightly blue, the cheeks are occasionally the same. The jugular veins are distended; the pulse is irregular; the body is painfully restless. The heart beats are feeble, quick, and irregular; the sounds muffled, with a bruit in some cases. No real convulsions of the limbs occur, but intense anxiety and constant movement. In those cases, on the other hand, where the death is really due to apnœa—the effect of obstruction in the air-passages—the symptoms are widely different. In these cases there is some point in the respiratory canal where an obstruction can be detected. The lungs show signs of congestion, but never of emphysema. The difficulty of respiration arises from an absolute inability to fill the chest. From the fact of the obstruction being in the respiratory circuit, such blood as passes through it is not arterialized, and the surface of the body, instead of being pale, as in cases of cardiac obstruction, is generally of a dark hue, with the veins more decidedly turgid. The muscles are not simply restless, but actually convulsed violently, the patient being unconscious of the fact; the heart sounds are clear, and its motions, though feeble, are rarely tumultuous. Lastly, the breathing is the first to stop at death, while in the former case the heart takes the precedence in this respect. These broad and definite diagnostic signs can never be mistaken, except in instances where there is a clot in the heart coincidently with obstruction in the windpipe. Here some difficulty may arise, but a careful inquiry into all the facts will indicate the existence of the complication."

In some few cases the disease has terminated fatally in from twenty-four to thirty hours after its commencement, but when it terminates fatally it is most usually on the fourth or fifth day, while a fatal issue in diphtheria is usually more protracted. Dr Craigie affirms that croup never goes beyond the eleventh day, and Dr Cheyne states that the younger the child is when weaned, the more liable is it, *cœteris paribus,* to the malady, and the greater the danger of an early fatal result.

Where portions of false membrane are thrown up, even when new false membrane forms, it has occasionally happened that life in these cases has been protracted for a day or two longer than it would otherwise have been.

V. THE COMPLICATIONS OF CROUP.

The most serious complications of croup are undoubtedly extension on the pharynx, or general diphtheria, and cardiac fibrinous obstruction.

With regard to the first, diphtheria, we have throughout held it to be distinct from croup, and given our reasons for so doing, admitting that it is held in high quarters worthy of all respect not to be so, and that the diagnosis is in some cases difficult, and occasionally well-nigh, or perhaps quite, impossible, at least during life. In *Guy's Hospital Reports* 1877, Dr Hilton Fagge and Mr Lamb arrive at the following cautious conclusions:—"We find that the attempt to separate from diphtheria a membranous croup in which the fauces remain entirely free from false membrane, is beset with difficulties. The cases (which must, then, be called cases of diphtheria) in which the air-passages are attacked, the palate and tonsils being but slightly affected, occur almost exclusively in children, and they are seldom, if ever, infectious, whereas pharyngeal diphtheria is highly infectious. But when one has once admitted that the different forms of diphtheria present different degrees of infectiousness, and that each of them occurs with special frequency at a particular period of life, one is debarred from insisting on the sporadic character of membranous laryngitis, and the fact that it never arises in the wards of a general hospital, as proof that it is distinct. It is otherwise if we ..... allow that the non-specific, simply inflammatory, affection may be attended with the formation of false membranes, even in the fauces. Such a view does away with the very improbable supposition that laryngeal diphtheria differs from the ordinary form of the disease in being peculiar to children, and in possessing little or no infectiousness, and, we think, commends itself to us on other grounds also." Nevertheless, I believe with Sir William Gull, that the two diseases differ clinically; with Jabez Hogg also, that they differ anatomically, histologically, and pathologically; and therapeutically with Warburton Begbie, etc., etc.

With regard to the next most serious and frequent complication, cardiac fibrinous obstruction, Dr Bouchut, in a lecture at the Hôpital des Enfants, on the frequency of myo- and endocarditis in these cases, says the endocarditis was valvular and parietal, of a proliferating character, and was followed by fibrinous deposits on the diseased walls, and of large ventricular clots. The fibrinous deposits adhering to the diseased valves may become loose, and be carried away by the blood into the aorta or pulmonary artery, and there give rise to embolisms. These embolisms form infarcti of the lungs, followed by metastatic abscesses and infarcti of the brain, which may produce cerebral softening.

Bronchitis is also frequently observed concurrently with croup, and though generally unfavourable, is not always so, as it sometimes facilitates the separation of the false membranes, or forms a kind of solution of them, enabling them to come away more readily. Whooping-cough, if present, also sometimes acts in the same way by promoting the excretion of the false membranes, by the repeated shocks of the coughing, and by the vomiting which so frequently accompanies it.

Gastritis and enteritis are occasionally met with as complications of the disease, and it has been found associated with meningitis.

Phthisis is also said by Guersant to be amongst the number of complications of croup, sometimes to such an extent as even to mask the characteristic croupy cough.

The exanthemata, as measles, smallpox, and scarlet fever, must also be reckoned amongst the possible complications of croup, or one or more of these may be combined, as in some cases where croup was complicated with both bronchitis and measles, adding, of course, considerably to the risk of the patient. Coryza may also be found at times as a disagreeable and not unfrequent accompaniment.

True sporadic membranous croup, as we have seen, although usually confined, as in its simplest form, to the trachea and larynx, also varies in its intensity, duration, and the extent and seat of the surfaces it occupies; it is sometimes, though very rarely, found extending to the pharynx, but more frequently, unfortunately too frequently, it is found extending downwards into the bronchi and their ramifications, then accompanied, or rather followed, by congestion of the lungs, etc. Brétonneau and Velpeau found the false membrane penetrating the bronchi in one case out of every nine, but this was in the last stages of the disease, and in remarkably severe epidemics, so that this proportion is not quite exact, and other observers have met with a better, because smaller, proportion. Be the number, however, what it may, a fatal result is of course more likely to ensue when this, or indeed any other, complication is present than when we have only to deal with a simple case of croup confined to the trachea and larynx.

Having endeavoured as briefly and clearly as possible to describe the nature and symptoms of true sporadic croup, it now only remains for me, as thoroughly as I can, to point out the treatment, prophylactic, medical, and surgical, which is required for successfully overcoming the attacks of this at all times to be dreaded malady.

(*To be continued.*)

ARTICLE VII.—*The Histology of Psoriasis.* By W. ALLAN JAMIESON, M.D., F.R.C.P., Lecturer on Diseases of the Skin, Edinburgh School of Medicine.

(*Read before the Medico-Chirurgical Society of Edinburgh on 6th Nov.* 1878.)

HAVING regard to the frequency with which psoriasis occurs, a frequency varying somewhat in different countries, but summed up in general by Neumann from numerous statistics, as 1 in 14 of all skin diseases coming under hospital treatment, it is strange that its pathological histology has not yet been finally settled. When the first edition of Hebra's work appeared, almost nothing was known concerning it; examination of the skin by the methods then in use after the death of the patient revealed no abnormality, the scales had fallen off, and the redness had disappeared, and Hebra was driven to the conclusion based on clinical observation, that the scales were seated on a hyperæmic base. Both G. Simon and Rindfleisch regard the starting-point to be a limited inflammatory process, but agreeing so far, they diverge in their explanation of the subsequent phenomena. Simon thought that there was no true hypertrophy of the cuticle, but that the accumulating exudation caused a separation of the newly-formed epidermis, and thus occasioned the scales. Rindfleisch again, that, as a result of the inflammation, there arises an increased production of epidermic cells, which in their further progress dry up instead of becoming horny, and maintain a mechanical connexion with the subjacent parts. He regards the papillæ as the governing bodies in the nutrition of the epidermis, and that in consequence of their hypertrophy and increased nutritive activity, there is an exaggerated production of imperfect epidermic cells. Wertheim and Neumann, from sections made from skin removed during life, came nearer to what seems to be the true explanation. Wertheim described an increase in size of the cutaneous papillæ in the patches, enlargement of the vessels in the papillæ, with a twisting and winding of their course, causing them almost to fill up the stroma, and thought that thus there arose an obstruction to the circulation, giving rise to the sharp contour of the psoriasis patch. Neumann studied the appearances both in recent and old-standing patches, and found hypertrophy of the rete Malpighi, and increase in size of the papillæ, especially in older patches. Both the corium and papillæ were largely infiltrated with cells; these were particularly manifest along the course of the vessels, but occurred also singly, and showed numerous prolongations, but were in greatest number in the upper layer of the corium and at the apices of the papillæ, where they formed a cluster. He notes also the same winding of the papillary vessels as Wertheim had done at the apices of the papillæ. Psoriasis is, according to him, a disease of the upper layer of the corium and of the papillæ, accompanied with considerable cell growth. The enlargement of the papillæ is an early feature, and primary in psoriasis; a late and secondary one is eczema and prurigo. The scaling is due to hyperplasia of the rete Malpighi, the pearly colour being owing to air included in the process of drying. In the July number of the *New York Medical Journal*, an Edinburgh graduate, Dr A. R. Robinson, has published an exhaustive paper on the "Nature and Pathological Histology of Psoriasis," which forms the most valuable contribution we yet possess on the subject. In this paper an entirely different view of the mode of production of the morbid changes in psoriasis is evolved. Dr Robinson considers that the process commences in the rete Malpighi, the cells of which, in parts next the cutis, take on an increased activity of growth, their nuclei divide, new cells are formed, and prolongations are pushed down into the cutis. These prolongations are wedge-shaped, and as they pass down they include between the wedges portions of cutis, the meshwork of which becomes stretched, and the appearance of an increase in the papillæ is produced. That there is no real increase is proved, because in the earlier stages of psoriasis at least, on comparing the thickness of rete mucosum intervening between the apex of a papilla and the horny layer of the epidermis at the margin of a papule, where as yet no hyperplasia has taken place, with that in the centre where this has gone to a considerable extent, there is found to be no difference; thus showing that the papillary portion of the cutis has not advanced nearer the surface. Another argument for this is found by Dr Robinson, because universally in early papules outgrowths were met with from the external rootsheath of the hair, which corresponds to the rete mucosum. These were chiefly situated at the root of the hair, which was so deeply implanted that no hyperæmia whatever of the bloodvessels surrounding it could be observed—a proof of its primary character. These outgrowths somewhat resembled those described by Neumann in papules of lichen ruber. That the initiative in the process is taken by the cells of the rete, and not by the papillæ, is shown by Dr Robinson to be almost certain, from an observation he made. He removed two adjoining papules, each the size of a pin's head, with the intervening sound skin, and found that the hypertrophy of the rete mucosum existed beyond the apparent margin of each papule, and that hence the papules approached much closer below than they did on the surface. The rete, in fact, had taken on an increased activity before it manifested this by any visible external signs, such as elevation or redness.

Enlarged bloodvessels are also seen in the papillæ and the superficial part of the corium within the psoriatic region, and also numerous round bodies (leucocytes), these being absent in the neighbouring, as yet unaffected, portion of skin. The hyperæmia of the vessels seems secondary to the hyperplasia of the rete Malpighi, since there is no apparent relation between the amount of dilatation of the vessels and the increase in the rete. The elevation of the papule above the surface is due in part to the hyperplasia of the Malpighian layer, but more to the hyperæmia accompanying it, and to the cutis infiltration which follows. In early papules the bloodvessels are more or less dilated, the degree of cell infiltration being in direct relation to the amount of dilatation, and this cell infiltration is found first in the portion of corium included between the Malpighian prolongations, and subsequently as the diseased process advances in the part of the cutis beneath the rete, but the deeper portion of the corium as yet exhibits no change. In old-standing patches of psoriasis the hyperplasia reaches a high degree of development, the prolongations downwards are broad, and often wider below than above; the meshwork of the cutis is opened out, and the spaces filled with serum and cells, the majority of the cells being round, though some are flattened from pressure. There is no production of new cutis tissue, since, when the cells and serum are removed in process of absorption, the meshwork closes up and resumes its ordinary appearance. The cell infiltration in psoriasis is confined to the neighbourhood of the bloodvessels, but in old patches it is found round them pretty deep in the cutis, but it does not invade the intervening tissue. The arrangement of the cells, which, according to Neumann, is perpendicular in the greater part of the inter-Malpighian space, and transverse at its summit, where it approximates the horny layer of the epidermis, is explained by Dr Robinson to be caused by the direction in which the connective-tissue fibres run.

When the disease is disappearing, the Malpighian prolongations become smaller and smaller, till the natural depth of the layer is reached; the bloodvessels diminish in size, and the cells and serum are reabsorbed. The cell infiltration and the serous exudation usually disappear first, the hyperplasia last. Dilatation of the vessels continues when the leucocytes have vanished, and some time elapses after all apparent visible sign of the presence of a former patch has gone ere the skin has entirely resumed its normal state. There is generally an excess of pigmentation remaining in the part for some time; occasionally, in place of this, the spot is lighter in hue than the parts around.

During the last year I have been engaged in studying the histology of psoriasis in sections of portions of skin removed from numerous patients who have come under my care at the Royal Dispensary. I have been anticipated in some of my conclusions by Dr Robinson; but after his paper appeared I compared my sections with his description, and also with the excellent woodcuts which illustrate it. The main result has been to establish the accuracy of his observations, and to further confirm them by additional arguments. I first endeavoured to discover if any difference exists between the skin of those who have suffered from repeated attacks of psoriasis and that of healthy persons. I removed skin from the neighbourhood of a patch of psoriasis, and made sections of it after hardening in chromic acid and alcohol, but, so far as I could make out, it was in all respects normal, so that we may fairly conclude that, during quiescence or in unaffected parts, the skin of persons disposed to psoriasis may be considered to be the same histologically as that of those who are not so.

I have assured myself that Dr Robinson is correct in stating that the first step in the diseased process is taken by the cells of the rete Malpighi, which lie next the derma, and not by the papillæ, and that psoriasis cannot be regarded as primarily an inflammatory disease or affection of the upper layer of the cutis, from the following observations:—

Having made a section through an increasing papule of psoriasis, which I had removed, along with some adjoining unaffected skin, from the abdomen of a man aged 56, suffering from an attack of psoriasis for the first time, I carefully examined the section from the margin to the centre of the papule. Enlargement of the vessels and exudation of leucocytes were absent, except in a small area of the corium in the centre of the papule where the hyperplasia of the rete had reached a considerable extent. Some of the cells, too, at the deepest part of the rete were seen to have two nuclei. I removed from the same man a strip of skin from the inner and healing margin of a patch of psoriasis annularis, including the still affected part, and some skin which had nearly, to all appearance, resumed its natural aspect. Here the vessels were still dilated, and numerous leucocytes were present round them in the corium, beneath a part of the rete Malpighi, which had all but reverted to its normal thickness; and this was the case not only in the superficial parts of the derma, but also in the deeper parts where vessels were present. From this it seems proved that the increased activity of the cells of the rete precedes the changes in the vessels and transudation of white blood cells, although these, contrary to Dr Robinson's view, appear to persist for a time after the cells of the rete have undergone retrograde metamorphosis.

Another argument for the primary activity of the cells of the mucous layer may be drawn from the cells themselves composing it. In a fully developed patch of psoriasis the cells of the Malpighian prolongations are large, with large active nuclei, containing one to three nucleoli, and are all even down to the columnar cells, which form the layer next the corium, provided with spines or prickles, these being characteristic of cells of mucous surfaces when in course of vigorous increase.

Dr Bulkley[1] has drawn attention to the presumed relationship between psoriasis and epithelioma. Epithelioma is an ingrowth of epithelial elements, and so, we have seen, is psoriasis. Both increase peripherally, which may go on to the extent of forming a ring with healing in the centre, and in both we have a shedding of the outer epithelial layers; but here the resemblance seems to cease, as there is no proof as yet of the passage of the epithelial cells in psoriasis into the lymphatics as occurs in epithelioma. The process, so far as we know, never extends deeper than the skin; the relationship appears to be merely an histological one. And further inquiry may explain away even this seeming resemblance. We may, however, conclude from the microscope that psoriasis is never destined to be either a permanent condition or to proceed to ulceration. The unimpaired state of the skin after an attack of psoriasis has been held by some to depend on the disease shifting its ground, and hence never for any time exerting a deteriorating influence on the same portion of skin. This is only partially true; patches of psoriasis often remain fixed for long to the same situation, and yet, under treatment, disappear entirely. We find that the exuded leucocytes never exhibit any tendency either to go on to further development—to elongate and form fibres—nor, on the contrary, to become fatty and die. They manifest their migratory tendency, however, they wander to some distance from the vessels, then break down and are absorbed. Hence there is no new formation of connective tissue to contract, as in lupus exfoliativus; nor ulceration, as in lupus exedens; both of which are accompanied by free transudation of white-blood cells in much the same situation as we find them in psoriasis.

The last point I wish to take up is one which has a direct bearing on treatment, as it affords a rational explanation of the action of arsenic in psoriasis. Drs Ringer and Murrell[1] have just published the results of the subcutaneous injection of arsenic in frogs, and among other things found that in the batrachian so poisoned the epidermis stripped off very easily. Emily A. Nunn has, in the same periodical, given a clear account of the cause of this, which I quote shortly. In the healthy skin of frogs the lower layer of cells in the rete Malpighi, next the derma, are columnar, and these rest on a fine sheet of hyaline or very finely fibrillated connective tissue. The epidermis or upper surface of this dermic basement membrane is raised up into a number of delicate pointed processes or denticulations, which have been described by Eberth,[2] which pass into and become continuous with the protoplasm of the over-lying cells.

---

[1] *Are Eczema and Psoriasis Local Diseases?* Philadelphia, 1877.

Now, in psoriasis, when the hyperplasia of the rete Malpighi and the migrating cells open up the fibres of the derma, they furnish us with a dissection of more infinite delicacy than any available to human fingers, and when we examine these sections of advanced psoriasis we find in man precisely the same condition that Eberth has described in frogs. The columnar cells which margin the Malpighian prolongations rest on a similar basement membrane, composed of condensed connective tissue, and this sends up fine processes between these columnar cells, which lose themselves in the protoplasm of the second row. This I made distinctly out, and showed to some friends before I had read Nunn's paper, or was aware that such existed in the frog. It requires a power of about 800 diameters and a clear light to see these distinctly, but given these there is no doubt whatever.

To return to Nunn's paper. The first effects of arsenic when injected subcutaneously are indicated by the appearance of a faint narrow band along the base of the columnar cells, immediately above the basement membrane, this being due to a softening of the protoplasm, which tears and separates the basis of the cells from the derma below. This separation goes further and then proceeds to affect the bodies of the rest of the cells of the rete Malpighi, their prickles are obscured and the cells lose their characteristic arrangement. The cells collapse, their nuclei become destroyed, and the whole rete Malpighi loses its natural features, but remains attached to the derma by tags and by the prolongations which extend into the cutaneous glands.

Arsenic, therefore, attacks the columnar cells next the derma first, partly because these are nearest the vessels containing blood charged with the metal, partly because these cells are more active and their protoplasm more irritable. "This is also an argument that the growth of the epidermis proceeds from this layer and not, as recent researches on the structure of the mammalian epidermis have suggested, from the cells of the intermediate part of the rete." Arsenic probably stimulates the cells of the epidermis to exhaustion, so that destruction overruns construction.

---

[1] *Journal of Physiology*, vol. i. Nos. 4 and 5, 1878.

[2] *Untersuchungen zur Normalen und pathologischen Anatomie der Froschhaut.* Leipzig, 1868.

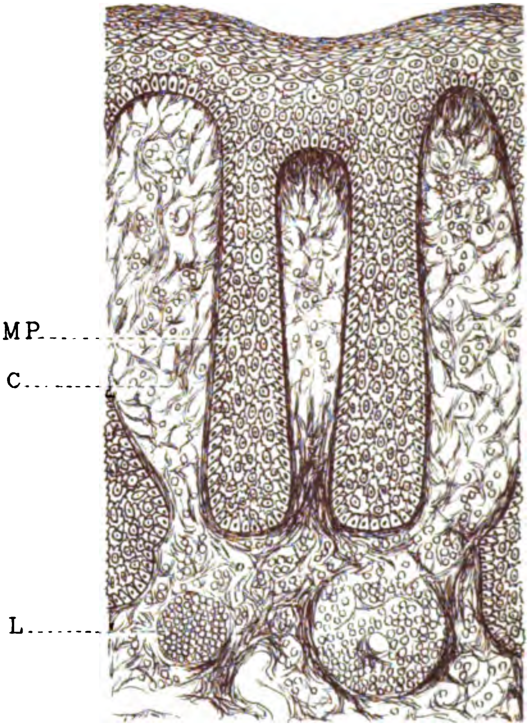
These observations of Nunn are directly applicable to psoriasis. I mean to investigate the subject by removing portions of skin from time to time during a course of arsenic in full doses; but, as has been shown by Robinson, and confirmed by myself, that the initiative of the morbid process in psoriasis is taken by the deepest cells of the rete, and maintained by them, the conclusion is inevitable, that in arsenic we have the physiological remedy for psoriasis, since it acts by neutralizing in some way the over-activity of those cells to which primarily the morbid process is due.

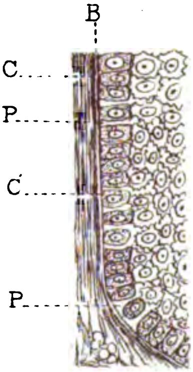
Clinical evidence, to which we must always refer for the decision of any such question, gives no uncertain sound; but specially interesting is a paper on the treatment of psoriasis by arsenic in large doses by Dr Shapter,[1] which has just appeared. He records five cases; in four of these external treatment by tar and carbolic acid, and internal by moderate doses of liq. arsenicalis, Donovan's solution, carbolic acid, and phosphorus had failed, yet the psoriasis disappeared under relatively large doses of arsenious acid. In one case, in a girl of sixteen, the disease had resisted all treatment for six months. Dr Shapter began with $\frac{1}{30}$ of a grain of arsenious acid in bread-crumb pill thrice a day, and increased this gradually till half a grain was taken thrice a day. Each increment of dose was marked by some progress towards cure, which ceased after a time till a fresh increase was made. Even such large doses as half a grain produced no very marked physiological effects, while the therapeutical ones were very evident. Dr Shapter directs attention to an observation of Dr Begbie's, that there is perhaps no remedy where the disproportion between the ordinary medicinal dose and the poisonous limit is so marked as in the case of arsenic. It would appear that we must exert an actively destructive influence on the cells of the rete Malpighi. This is reached much more easily in some cases than in others; but however attained, the hyperstimulation of the rete cells is to be kept up by adding to the quantity of arsenic circulating in the blood as toleration becomes established. Solubility in water is not always the best gauge of the activity of a medicine, and arsenious acid may thus be a formidable rival to Fowler's solution in the cure of psoriasis. Dr Craig Maclagan has shown that six grains may be taken with impunity by persons like the Styrian peasantry accustomed to its use. A Styrian nobleman whom I met last year on the Danube, between Vienna and Pesth, told me his gamekeepers habitually took it, and six grains was the average quantity for a dose. Popular prejudice in such matters ought to have some weight, and while repeating that arsenic is now shown to be the physiological

---

[1] *Lancet*, 5th October 1878.

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION





remedy for psoriasis, I would add that arsenious acid seems to be the most active form as well as the one best borne by the stomach, at least in those cases where the disease resists a reasonable trial of small doses.

Description of the Plate.—I am much indebted to my friend, Mr John Grant, for the care with which he has reproduced two of the specimens exhibited to the Society. The upper figure represents a vertical section of skin, magnified 300 diameters, taken from a patch of psoriasis of long standing; it shows also the mode in which the processes of rete Malpighi invade the cutis. MP stands for Malpighian prolongations, C corium, and L leucocytes. Two wedge-shaped prolongations are seen in the centre making their way down; but they have not reached their full size, as can be determined by comparing the depth they have attained with that of two larger ones, the sides of which appear on the right and left of the figure, one immediately above L. The extent to which the fine meshwork of the cutis vera is opened out and infiltrated with leucocytes between these processes, is well shown. It was this rarefied cutis tissue which was mistaken by Neumann for an increase in the papillæ; and he represents the free surface as rising into a prominence, in one of his figures, to a much higher degree than I have seen. Below each prolongation is a mass of leucocytes; that on the right has an enlarged and dilated bloodvessel in its centre. The scales are not drawn, as they invariably fall off during the preparation of the section.

The lower figure shows a small part of one of the prolongations at its deepest portion, magnified 800 diameters, as it appears when viewed with one of R. & J. Beck's new $\frac{1}{12}$ inch immersion lenses, and Hartnack's No. 3 ocular. C here again stands for corium, B for the basement membrane on which the columnar cells rest, and P the denticulations sent up by it between the cells, and closely resembling those in the same situation next the cutis in the frog. The prickle cells of the second row come out well with this power.

Part Second.

REVIEWS.

Visions: A Study of False Sight (Pseudopia). By EDWARD H. CLARKE, M.D. *With an Introductory and Memorial Sketch.* By OLIVER WENDELL HOLMES, M.D. Boston: Houghton, Osgood, and Co. The Riverside Press, Cambridge: 1878. Pp. 315.

WE have perused this book with much interest and instruction. It is invested with a special claim on our attention, over and above its intrinsic excellence, from having been composed and written to dictation when the author was contending with a fatal disease, accompanied by intense suffering and bodily prostration. It is preceded by a well-written introductory notice by an able and attached friend, who decided wisely, we think, in recommending its publication, and undertaking the duties of editor. The essay was not quite complete when Dr Clarke died; but it cannot be regarded as fragmentary, because the principles on which the subsequent deductions rest are so clearly, cautiously, and satisfactorily laid down, that the reader might almost forecast for himself the few remaining pages that the author might have written.

We regard the book as a valuable contribution to the physiology of the nervous system in general, although that of vision is chiefly elaborated, in accordance with the task he had undertaken. The author has carefully studied and assimilated the more recent researches of Ferrier, of Dalton, of Fournier, of Wundt, Carpenter, Charcot, and others. In gathering up results he exhibits a logical and conscientious accuracy of thought, takes nothing for granted, and compares, with much fairness, the deductions of other minds with the teaching of his own large experience. The book cannot be read without advantage, being replete with well-ascertained facts, suggestive thoughts, and speculations founded upon them. We perceive that the author was evidently a man of high tone, and we can readily understand the high place which he held among his countrymen as an eminent teacher of medicine, a wise physician, and a trusted friend. He died last November in his fifty-eighth year.

We shall try to give a brief, it must be very brief, account of the essay.

After alluding to the terms in ordinary use as applicable to visions, such as hallucination, illusion, delusion, and showing that they are not sufficiently precise and apt to be employed indiscriminately, he proposes and adheres to the following terms: "The normal process of vision may be appropriately called orthopia, from ὀρθός and ὄπτομαι; and false perception, or vision, pseudopia, from ψεῦδος and ὄπτομαι. According to this nomenclature, false perception, arising from the action of the intracranial visual apparatus, would be called subjective or centric pseudopia; that arising from disturbance of the eye alone, ophthalmic pseudopia; and that produced by the presence of external objects, objective or eccentric pseudopia. An individual conscious of the error in his perceptions would have conscious pseudopia, otherwise unconscious pseudopia. One advantage of these terms over the common ones of hallucination, illusion, and delusion is that they indicate the precise seat of the visual apparatus, whose structural or functional disturbance causes the false perceptions. Conscious centric (or subjective) pseudopia; unconscious centric (or subjective) pseudopia; conscious eccentric (or objective) pseudopia; unconscious eccentric (or objective) pseudopia; conscious retinal pseudopia; unconscious retinal pseudopia, etc.;—all indicate with tolerable precision the part from which visual derangement proceeds, and, to some extent, the character of the derangement. Another and no slight advantage is, that no traditional or preconceived notions are associated with these terms."

A series of cases are then related which illustrate most of the physiological and pathological conditions of pseudopia, and reference is afterwards made to them by way of scientific explanation. We shall quote Case IV.; it is one of conscious centric or subjective pseudopia, and is admirably described by the lady herself. "My earliest recollections are of a life made miserable by the daily companionship of a crowd of dreadful beings, visible, I know, only to myself. Like Madame de Staël, I did not believe in ghosts, but feared them mortally. When I was about fifteen we went to Europe for two years, and the change of scene, and of constant external interest, broke up my invisible world, and I have only entered it since in times of excitement or great fatigue. Of late years, the most distinct visions have appeared only when sharp mental pain or anxiety has been added to bodily exhaustion. My sense of hearing has never deceived me, except that during my girlhood, in frequent nervous states of mind, all sounds would strike my ear discontinuously, that is, with a time-beat as sharp and rhythmical as the movement of the bâton by an orchestral conductor.

"Several years ago one of my sisters was taken ill with typhoid fever. I was not strong enough to be of any assistance in her chamber, so I undertook to finish some work which she had commenced, and became daily more and more worn out in my endeavours to carry it on. Anxiety, added to fatigue, finally brought back the old visions, which had not troubled me continuously for some years. Animals of all kinds, men, women, glaring-eyed giants, passed before or around me until I often felt as though I were surrounded by a circle of magic-lanterns, and would sometimes place the back of my chair against the wall that at least my ghosts should not keep me constantly turning as they passed behind me. One evening, feeling too tired to sit up for the latest report of my sister, which my mother brought me regularly, I went to bed leaving my door wide open, so that the gas from the adjoining entry sent a stream of light across one-half of my little chamber, leaving the rest somewhat in shadow. Soon I saw my mother walk slowly into the room and stop at the foot of the bed. I remember feeling surprised that I had not heard her footstep as she came through the passage. 'Well?' I said inquiringly. No answer; but she took slowly two or three steps towards the side of the bed, and stopped again. 'What is the matter?' I exclaimed. Still no reply; but again she moved slowly towards me. Thoroughly frightened by this ominous silence, I sprang up in bed saying, 'Why *don't* you speak to me?' Until then her back had been turned to the door, but as I last spoke she turned, almost touching my arm, and the light falling on her face showed me an entire stranger. She had heavy dark hair, and her face, quite young, was pale, and though calm, very sad. Over her shoulders was a child's woollen shawl, of a small plaid not familiar to me, which she drew closely about her as though she were cold. Her right hand, which pressed the shawl against her side, was very white, and I was struck by the great beauty of its shape. The thought passed through my mind, Can she be a friend of the nurse? But *why* has she been sent so mysteriously to me? As I stared at her in speechless amazement, she fell to the floor. I instantly stooped over the side of the bed. To my consternation there was nothing to be seen! Accustomed as I was to ghosts, if there had been anything in the least shadowy about my visitor I should have suspected her tangibility; but so well defined was she, so vividly was her reality impressed upon me, that I could not believe that she had vanished. I looked into every corner, and glanced under the bed; it seemed even more credible for a moment that the floor had opened, than that my visitor had been less flesh and blood than I.

"It seems to me that the remarkable cases of nervous disturbance which you have related to me have all occurred in the evening, as did that incident which I have just described. This visitor stayed with me longer than any other of her kind that I have ever received; but, usually, the visions seen by sunlight have been the most distinct and deceptive, and have haunted me the most persistently. It was in the daytime, too, that I walked beside my own double; and on one bright afternoon that I lost my way in a country town as familiar to me as was Cambridge to your college friend."

Dr Clarke makes a remark in connexion with this case which may be noted. "The early appearance of the hallucinations indicates probably some congenital cerebral condition which favoured their manifestation. If such be the fact, it raises a question as to how far the brain in childhood is more susceptible than in adult life to subjective impressions, and consequent hallucination and delusion. The screaming and strange terrors, and frightened looks and actions, which some children exhibit when there is no apparent cause for terror or alarm, may sometimes result from cerebral processes, which surround them with invisible objects of horror and distress."

In expounding the physiology of vision with the view of explaining the various forms of pseudopia, we must confine ourselves almost entirely to the *results* of inquiry, passing over the elaborate statement of anatomical facts and the chain of reasoning by which they are reached. The apparatus of human vision consists, we may say, of five organs or sets of organs closely connected and in intimate communication with each other. (1) The eye with its iris, lenses, retina, and other structures; (2) the tubercula quadrigemina and associated nerves; (3) the cerebral centres of vision in the hemispheres, probably the angular gyri; (4) the gray matter of the frontal convolutions; (5) the connecting nerves of communication. Each portion of this apparatus performs a special function. Each is supposed to do its own part honestly, that is, so to speak, never to send a report to a station above, which it has not received from below; and this is very rarely done. Nevertheless, in disease, disturbed by drugs, or modified by the brain itself, confusion sometimes occurs, untrustworthy reports reach head-quarters—pseudopia is the result.

Let us consider rapidly the various portions of the complicated and delicate apparatus.

(1.) *The Eye.*—Light, whatever it may be in its essence, is the stimulus or force which sets the visual machinery in motion. Without it, in the normal condition of the system, the apparatus cannot work; but we shall see, farther on, that there are abnormal conditions of the brain, which can make the other portions of the apparatus of vision perform their functions, without its agency, and without the presence of extra-cranial objects. The eye performs a purely mechanical or automatical task, in which consciousness takes no part, and over which volition has no control.

(2.) *Functions of the Tubercula Quadrigemina.*—"Physiology teaches that the functions of this part may be divided into four classes: those connected with the muscular apparatus of the eye; those connected with the muscular apparatus of the whole body, and particularly with the apparatus of locomotion and equilibration; those remotely connected with emotion and intellection; those connected directly with the sense of sight." "When a sempstress undertakes to thread a needle, the pupils of her eyes are adjusted to the surrounding light, her eyeballs to the appropriate axis of vision, the position of her head to the requirements of her eyeballs, and the movements of her arms and fingers to the act of entering the thread into the eye of the needle." The experiments of physiologists justify the assertion, that the optic tubercles are not only essential to vision and to irido-ocular motion, but that they form an essential part of the central mechanism, by which visual impressions are co-ordinated with equilibrium, locomotion, and all muscular effort requiring light for its best results." But the most important function of the *corpora quadrigemina* remains to be mentioned. "Visual impressions first come within the sphere of consciousness when they reach the *tubercula quadrigemina.* Then they are first perceived by the eye. The eye, with its lenses, membranes, tubes, and cells, silently and unconsciously performs the task of collecting visual data, which data the optic nerve with equal unconsciousness transmits to the tubercles. Arrived at that point they are recognised by consciousness." The *corpora quadrigemina* are ganglia of the nervous apparatus, and resemble in their construction and function other ganglia. They receive, and, so to speak, decipher messages from one direction (from the eye), and despatch corresponding messages in another direction. Normally, no message is ever despatched, say to an upper station, except in response to a message from the lower, viz., the eye. In certain abnormal conditions, however, it is possible for the ganglion to act spontaneously and send an order without having received one. We see the bearing of this on pseudopia. The *corpora quadrigemina* may be regarded "as ganglionic workships placed between the eye and the hemispheres, and charged with the functions which have been described. Their apparatus, like that of other ganglia, consists of cells, fibres, bloodvessels, and connective tissue, enclosed by a protecting membrane."

The following conclusions are considered trustworthy by the author:—

"1. The *tubercula quadrigemina* are a visual centre, charged with the office of receiving visual impressions from the eye, and of forwarding them when received to certain motor centres and to the hemispheres. 2. The visual impressions received by the *tubercula quadrigemina* are not physically the same as those made upon the retina of the eye, but are the result of a stimulus, which, propagated along the optic nerve, produces a peculiar molecular action in the tubercles. 3. Every object, colour, and grouping of objects, capable of affecting the eye, produces in the *tubercula quadrigemina* a definite sort of chemical, mechanical, or thermal change, which is the hieroglyphic or cipher of that object, colour, or grouping, and is the representative of no other object, colour, or grouping. 4. The *tubercula quadrigemina* co-ordinate sight with irido-ocular movements, and, aided by the *optic thalami*, with all muscular movements, whether of locomotion or otherwise, for the perfect and harmonious performance of which sight is necessary. 5. If the *tubercula quadrigemina* are separated from the hemispheres by the destruction of the latter, or by interrupting the communication between these two regions, the tubercles are still capable of performing their functions independently; and, conversely, if they are destroyed, the hemispheres remaining uninjured, blindness, loss of irido-ocular co-ordination, and imperfect co-ordination of the general muscular system result. 6. Simple perception of light and of visible objects is a function of the *tubercula quadrigemina*, but is perception without memory, intellection, or volition—without any recognition of the character or relations of the objects seen. 7. The *tubercula quadrigemina* are essential to the process of vision, but are not centres of conscious vision."

(3.) "*Visual centre of the hemispheres—Angular Gyrus—Pli Courbe.*—The third station on the way from the eye to the frontal lobes of the brain, from the objective world of matter to the subjective world of ideas, from the not me to the me, is the *angular gyrus*, or centre of vision in the hemispheres. Here seeing really takes place. . . . It is with the grouping of cells in the *angular* *gyrus* that we see and not with our eyes." That this is the visual centre of the hemispheres has been demonstrated by two series of experimental investigations—one by destroying it, the other by stimulating it in living animals. Like the *tubercula*, the *angular gyrus* is composed of groups of corpuscles, granules of protoplasm, cells enclosing nuclei and nucleoli, interlacing nerve-fibres, blood-vessels, and connecting tissue. It is important to bear in mind that these cells of the higher nerve-centres have the power of retaining or of registering impressions. In accordance with this law or power of cerebral registration, impressions made on these cells are retained with a definiteness and permanence proportional to the frequency and intensity of the impressions. In this way the cerebral cells are modified by impressions made on them, and the modification becomes in some unknown way a part of the organization, persisting, in spite of the continual metamorphoses to which they are subjected,—and reminding one of a cicatrix on the skin, retaining its place and structure, through all changes of nutrition from childhood to old age. In this centre the *angular gyrus* —visual impressions—receive their final elaboration before being presented to the mind; and here they are registered and preserved for revival or reproduction. "Whatever report it sends up the mind accepts as true." This is justified in the vast majority of cases; but sometimes the angular gyri act independently of the external world. We see what confusion this will breed, rendering it doubtful whether the seeing be objective or subjective, orthopia or pseudopia, sights *ab extra* or *ab intra*.

(4.) *The Frontal Lobes*.—"Numerous connecting nerve-fibres unite the centres of the hemispheres with the cells of the frontal lobes, to which all visual impressions having been elaborated, classified, and carefully arranged in these centres, are immediately reported for inspection and ideation. The nerve-fibres, which connect the *angular gyri* with the frontal lobes, serve not only to bear visual messages from the former to the latter, but the reverse." "The *angular gyrus* presents the physical, and the frontal lobes give the mental side of a visual impression."

We have already seen that cell-groupings may be revived in the visual centres—the *corpora quadrigemina* and the *angular gyrus*—of external objects which are not objectively present to the eye. "When this occurs, the frontal lobes receive the same visual report which they would receive if the objects were present. The lobes are deceived into the formation of visual ideas without the presence of any objective reality. This is pseudopia."

Perception attains its highest development and enjoys its largest range in the frontal lobes of the brain. Leibnitz called it apperception, or perception that reflects upon itself. We can understand then that sight is intracranial, being a function of the brain, not of the eye, and that internal seeing is of two kinds—one sensory, the other ideal; one photographing, so to speak, external objects without reflecting upon them, the other receiving the photographic impression and reflecting upon it; one normally preceding the other, but with the possibility of a reversed order.

The following case is quoted as an illustration of this physiological interchange and reinforcement of ideal and sensory intercranial pictures. It is related by Dr Abercrombie in his *Intellectual Powers.* "In the church of St Peter at Cologne, the altar-piece is a large and valuable picture by Rubens, representing the Martyrdom of the apostle. The picture having been carried away by the French in 1805, to the great regret of the inhabitants, a painter of that city undertook to make a copy of it from recollection, and succeeded in doing so in such a manner that the most delicate tints of the original are preserved with the most minute accuracy. The original painting has now been restored, but the copy is preserved along with it; and even when they are rigidly compared, it is scarcely possible to distinguish the one from the other." Dr Clarke goes on to remark: "In this case, cell-groupings representing Rubens's picture had been frequently called together in the *angular gyri* of the Cologne artist by the visual stimulus of the picture; and the impressions had been stamped into them by close and careful observation of it. Habit and association had conspired to facilitate the assembling of the same visual groups. As often as a sensory picture had been formed in the cerebral visual centres, a corresponding ideal picture was formed in the frontal lobes. Here, also, habit and association had facilitated the formation of the same cell-groupings. Each group had learned to appear simultaneously, and to listen to each other's call. When the Cologne artist wished to recall and reproduce the original painting, to which he was denied access, his will summoned his ideal picture, that is, the cell-groupings of his frontal lobes corresponding to it, which assembled with greater or less facility to the call. These, when assembled, sent down along an *efferent* nerve a notice of their gathering to the *angular gyri.* The cells of this centre, accustomed to be grouped in a form representing the desired picture, assembled automatically, and sending up a visual stimulus by an *afferent* nerve, reinforced the efforts at cell-formation of the frontal lobes. This process went on till a grouping was formed in the *angular gyri*, which was the exact hieroglyphic of Rubens's painting. He copied the picture in his brain, without the objective presence of the original work."

The latter half of the book embraces a number of points closely connected with the portion of which we have given some account; the action of drugs on the cerebrum, the effects of disease, and many illustrative cases bearing on the whole subject. But our space forbids us to enlarge. It is worth mentioning, however, in conclusion, that while the author believes he can explain most cases of pseudopia on physiological principles, he confesses that there are instances in the experience of dying persons of visions, well authenticated, which cannot be so interpreted. In this we agree with him. We cordially recommend his book for the reasons already given.

The Antagonism of Therapeutic Agents: and what it teaches. The Essay to which was awarded the Fothergillian Gold Medal of the Medical Society of London for 1878. By J. MILNER FOTHERGILL, M.D., Edin., Member of the Royal College of Physicians of London, etc. London: Macmillan and Co., 1878: Pp. 150.

A PRIZE essay is always approached by readers with favourable expectations, and these are intensified if the author has previously produced a well-written book. In the present instance such expectations have not been disappointed. The subject "of the antagonism of therapeutic agents" has been extensively investigated, both experimentally and clinically, during the last few years by a considerable number of very competent men, many reliable observations have been made, and certain practical results achieved; but these are scattered over periodical literature or contained in monographs not generally accessible, so that Dr Fothergill has performed a real and valuable service in presenting, as he terms it, "a fair bird's-eye-view of the whole subject," so far as that can be done at this comparatively early period. He has executed his self-imposed task, we think, with judgment, and has brought an important and interesting field of observation, in a clear and suggestive manner, before the minds of the profession.

The book is divided into seven chapters. The first deals with the subject of experimental inquiry, and occupies thirty-five pages.

Opium and *belladonna*, it would appear, have been suspected to have antagonistic relations to each other since 1570,—the first definite attempt to utilize this antagonism having been made by Horstius in 1661.

The effects of belladonna on the pupil of the eye naturally led observers to experiment as to the other actions of drugs which contract the pupil, when given along with it. Hence a valuable series of observations as to the antagonism which exists betwixt *Calabar bean* and *belladonna*. The famous monograph by Professor Thomas R. Fraser is copiously appealed to on that subject. The experimental investigation by the late Professor J. H. Bennett on the antagonistic relations of *chloral hydrate* and *strychnia* is then described at considerable length, as also his subsequent experiments on rabbits with *chloral hydrate* and *Calabar bean*—the inferences drawn being, "(1) that *chloral hydrate* modifies to a great extent the action of a fatal dose of extract of *Calabar bean*, mitigating symptoms and prolonging life; (2) that *chloral hydrate* in some cases saves life from a fatal dose of extract of *Calabar bean*."

Professor Bennett next investigated the antagonism betwixt *morphia* and *atropia*. This inquiry had been previously made the subject of experiments by Dr John Harley in England, and by Weir Mitchell, Keen, and Morehouse in America. All these observers, including Bennett, demonstrated the antagonism generally, and the effects upon the *cerebrum* in particular.

The investigation carried on by Dr Alexander H. Bennett as to the relations of *morphia* to the different vegetable principles *theine*, *caffeine*, *cocoaine*, and *guaranine* is next detailed. A subsequent series of experiments were made to test the action of *strychnia* and *Calabar bean* when given simultaneously. It was found that less than the minimum lethal doses of *strychnia* and *Calabar bean* given together cause death. This is what we might expect if they are not antagonistic.

Professor M'Kendrick conducted a series of experiments to test the antagonism of *bromal hydrate* and *atropia*. The *atropia* seemed to modify the effects of the *bromal hydrate*; but the converse did not hold good; the *bromal hydrate*, when injected, was powerless to avert death after a lethal dose of *atropia*.

The experiments of Dr Crichton Browne on the effects of *picrotoxine*, as modified by chloral hydrate, are next described. They are full of interest, and in some points suggestive practically. He has ascertained incidentally that the effects of *chloral* are more pronounced on animals with convoluted than with smooth brains, and that idiots take larger medicinal doses of *chloral* than other persons, whether sane or insane.

Dr Fothergill's own experiments to illustrate the antagonism of *aconite* and *digitalis* are next described. When *digitaline* and *aconite* were administered to rabbits simultaneously, due attention being paid to the minimum lethal dose of each, previously ascertained, it was found that the action of the *aconite* was little influenced, but if the *digitalis* was given some hours before (five to nine), a distinct protective influence was exercised.

In another investigation, small non-lethal doses of *atropia* following lethal doses of *aconitine* had a striking effect in promoting recovery. It was requisite, however, to give the *atropia* not later than sixteen minutes after the *aconitine*, in order to arrest the lethal action.

The effects of *atropia* on *chloral hydrate* previously administered were discouraging—very inferior to those of *strychnia*, observed by Professor Bennett.

Another experiment was devised to ascertain the effect of lethal doses of *strychnia* on lethal doses of *aconitine*. It seems to be very considerable; but the opposite remains undetermined.

Digitalis exercises no or very little influence over the failure of the respiration induced by *aconite*. Its effect, however, when given some hours before the *aconite*, illustrates how closely the respiration and the circulation are linked together, and how difficult it will be to separate the action on the heart from that on the respiration in trying to differentiate the action of these two poisonous agents.

Professor S. Ringer, observing the opposite action of *atropia* and *jaborandi*, devised the following experiment: He gave ⅓ of a grain of *pilocarpine*, the principle of *jaborandi*, to a patient subcutaneously; free salivation and sweating were established; he injected $\frac{1}{60}$ of a grain of *atropia;* in five minutes the skin was quite dry. Two cases of *belladonna* poisoning shortly after enabled him to test the antagonism in the converse manner.

Chap. II. entitled "Practical Inquiry—Action of Drugs chiefly as ascertained by Experiment—Calabar Bean," contains some interesting matter; but, with our limited space, this and the remaining chapters must be dismissed in a very summary manner. Dr Crichton Browne, acting on the suggestive observation of Professor Fraser, that *Calabar bean* lowers both the pulse rate and respiration, and, at the same time, has a depressant action on the spinal motor centres, conceived the idea of administering the drug in the violent outbreaks of excitement to which cases of general paralysis are liable. He found that it calmed the patients, and also deprived them to a great extent of that remarkable muscular force so dangerous both to themselves and their attendants. The drug also seemed to exercise a marked control over the progress of the malady.

It has been suggested by Dr Wood of America, referring to Professor Fraser's experiments, that when *atropia* acts as an antidote to *Calabar bean,* it does so by its stimulant action on the respiratory nerves. *Chloral hydrate,* a hypnotic of great value, should be given with the greatest caution in cases where the circulation and respiration are both involved, such as in chronic bronchitis with right cardiac dilatation, valvular disease, etc., because it not only acts on the circulation, but powerfully affects the respiration. It is indicated, on the other hand, when it is desirable to diminish the energy of the respiration. In poisoning with *strychnia*—if given promptly—Professor Bennett found it very valuable in arresting the tetanic spasm of the muscles of respiration. Macnamara found it very efficacious in traumatic tetanus,—seventeen out of twenty being saved. We see also, how when given empirically in laryngismus stridulus, in asthma and hooping-cough, its beneficial effects may be explained.

Morphia.—"Death," says Wood, "occurs from opium in the great majority of cases by failure of the respiration." We can see, then, that as *belladonna* or *atropia* acts upon the respiratory centres, the antagonism of these drugs becomes readily intelligible. *Morphia* is a dangerous drug in *bronchitis.* It arrests secretion, increasing the difficulty of expectoration and respiration, and has a tendency to paralyze the respiratory centres already embarrassed. It effectually checks the hacking cough of phthisis, but at the same time it lowers the respiration, causes sweating, and impairs the appetite. By adding a little *atropia* to the mixture, Dr Fothergill believes that the sweats are checked, while the *morphia* allays the cough without being interfered with by the *atropia.* Attention to the same principle would lead us to give *belladonna* in asthma, and *ammonia* or *strychnia* in cases where the respiration is failing.

Strychnia.—When death occurs in poisoning by this drug, it is brought about by asphyxia, the muscles of the thorax being spasmodically contracted so as to arrest respiration. Dr Fothergill thinks it a fair induction, that, in smaller doses, it will act as a stimulant to these muscles, not directly, but through the respiratory centres. He gives a very interesting case in illustration of this view, p. 55.

Chap. III. "The Rhythmical Discharging Centres: and Effects of Drugs thereupon."—This contains a brief but interesting statement of the views at present held regarding the nerves which preside over the circulatory and respiratory functions. We have no space for entering into details; but the subject deserves attention.

Chap. IV. "Action of drugs upon the circulation."—As might be expected, the author bestows a good deal of time on his own early investigations respecting *digitalis.* In accordance with them and with later inquiry, the position which the drug now holds is that of a cardiac tonic; it increases the energy of the ventricular contractions. His doctrine is this: *digitalis* excites more perfect ventricular contraction; the arteries are better filled with blood; and consequently the heart itself is better nourished, while the brief diastolic sleep is lengthened. Betwixt the longer rest and the improved nutrition, the heart is enabled to grow and to increase in power. He considers carefully various forms of cardiac disease in which *digitalis* can be used with marked beneficial effect, and others in which only partial results can be anticipated. The following sentence is important: "Many persons who have not carefully studied the mode of action of digitalis say: 'it always does good when the bulk of urine is increased; or, it always does good when its diuretic action is established.' Quite true! But this diuretic action is really the evidence of its effect upon the circulation. When it increases the bulk of urine, *digitalis* is producing its effect upon the circulation."

The whole of this chapter will repay an attentive perusal.

Chap. V. "The Respiration."

"There can exist no longer any doubt that we possess in *atropia,* in *strychnia,* in *ammonia,* most powerful means for acting upon the respiratory centres when these are being paralyzed by toxic agents."

Respiratory Depressants.—*Opium* and *chloral,* for example, exercise, as we know, a potent influence over the cerebro-spinal centres generally, and, by arresting their activity, procure sleep; but be it remembered, that they exert a still more pronounced power over the rhythmically discharging centres which preside over the respiration and the circulation—that, in fact, they kill by their effects upon these very centres. We have long known empirically that their use is dangerous and disastrous in cases where the breathing is much oppressed and failing; we now understand, from experimental investigation, how this should be the case. The life of the individual depending in great measure upon the energy with which forcible respiration is maintained, if these efforts are arrested by a narcotic, he sleeps and may never awake. The risk is increased by the circumstance that these narcotic agents diminish also the activity of the centres in the *medulla*, and reduce thereby even the muscular efforts set up by the rhythmic explosions of the automatically-acting centres.

Respiratory Stimulants.—Without going over ground already traversed, it may be noted, "that where there is dilated heart in chronic bronchitis with emphysema, and *digitalis* gives but imperfect relief, the addition of *strychnia* will usually make it much more effective." "*The effects of temperature* are most important, and must be borne in mind carefully in all attempts to stimulate the respiration and the circulation, by means of agents which act upon the rhythmically discharging centres, which evolve the impulses that maintain the muscular movements necessary to each."

Chap. VI. "Practical Use of the Antagonism of Drugs in actual Poisoning." Some interesting illustrations of the foregoing portion of the essay are given, and merit a careful perusal.

Chap. VII. is essentially a recapitulation of the conclusions previously reached; but one or two suggestive sentences may be quoted.

"In a case of acute bronchitis where the phlegm is loose, the patient bathed in perspiration, and the powers failing, *ammonia* and *strychnia* should be given together in a vehicle, like *squill*, *senega*, or *ammoniacum*."

"In death by chloroform, either the respiration or the circulation fails. Is it possible to obviate this danger by the use of some agent which stimulates the centres connected with these systems, given synchronously?"

We regret the length to which this review has extended; but the inherent importance and interest of the essay must be our apology.

Lectures on Dermatology; delivered in the Royal College of Surgeons of England in 1876-77-78. By Erasmus Wilson, F.R.S., F.R.C.S, Member of Council, and Professor of Dermatology. London: J. & A. Churchill: 1878.

We have read this volume with much interest and no little profit, for it is pleasantly written, the type is clear and distinct, and the bulk not unwieldy. The works of the veteran Professor of Dermatology are in themselves worthy of all respectful attention; and all the more, as here new light is shed on many rather obscure subjects. Even when we cannot agree with the opinion expressed, we must own that the suggestions made are ingenious, though to us apparently untenable. In the nine annual courses of lectures delivered by Mr Wilson in the Royal College of Surgeons, the whole series of diseases of the skin has been reviewed, and the last three courses, which constitute the material of the volume before us, "are devoted to aberrations of pigmentation, to disorders of the epidermic system, including the nails, to the hair and its follicles, and to the glands of the skin, sebaceous and sudatory;" so that we possess in the now completed lectures an encyclopædia of diseases of the skin. Being addressed to an audience of medical men, the subjects are not treated in the elementary mode pursued in a text-book, but a previous acquaintance with the subject is assumed, points of interest and novelty being chiefly alluded to. Some of these which have particularly struck us will be briefly run over; the reader may study them and many others in the book at his leisure.

Much of the variety met with among the families of man is due to the hue of the complexion. While this changes in every zone, it is by no means devoid of importance to determine what is the proper standard of colour in the human race. This, Mr Wilson answers, is that which the skin assumes in a climate where clothing is unnecessary for comfort and health. This zonal line must be placed in the moderately warm regions; hence the tint in the tropics would be deeper, and that in the more northerly parts paler, than the normal average. The idea is supported by clinical facts, since it is in the extremes of climate that aberrations of pigmentation are most frequent,—taking the form of a suspension of pigmentation in the dark races, and usually in the fairer an increase. We meet with pied or piebald negroes, white patches making their appearance in their dark skins; while in Siberia the spots are brown instead of white, these being rough and harsh, the rest of the skin feeling soft and smooth. Like many other morbid processes affecting the skin, the starting-point seems to be the apertures of cutaneous follicles, where we have a richer and more complicated capillary plexus. Congestion and blood stasis in this plexus leads to deposit of hæmatin in the neighbourhood, heat and light on the one hand, as in freckles; or heat alone, as on the front of the furnaceman's tibia, or on the French peasant woman's legs, who warms herself cheaply by sitting over a chauffrette, being the exciting cause. When once the morbid action is set agoing, the well-known tendency for diseases to spread over the skin by continuity of surface becomes manifested, and in rare instances may affect the entire body. Numerous examples, both of increased and diminished pigment formation, are cited by Mr Wilson. As regards the prevention of pigmentary discoloration when the skin has been over-stimulated by heat and light or exposure to the weather, dusting with some harmless protective powder, such as Fuller's earth, may obviate the inconvenience. For the removal of superfluous pigment, Mr Wilson relies on lotions of perchloride of mercury, combined with suitable tonics and aperients to restore the frequently enfeebled health, while he employs cantharides to restore it when lost, as far as possible a permanent congestion of the capillaries being maintained by its means. That in favourable circumstances something may be done by such measures, is shown to be possible by Mr Wilson by actual examples.

Mr Wilson, it is well known, stands almost alone in his rejection of the doctrine that vegetable fungi are the cause of the so-called parasitic diseases of the skin. This is all the more singular, as he accepts fully the animal parasites, and, indeed, has done more than any one else to elucidate the anatomy and habits of one, the *Demodex folliculorum*. Mr Wilson affirms that what every one now speaks of as mycelium and spores is a morbid growth of the rete mucosum itself, "the plant-like appearance of the mass being due to the proliferation of the cell-constituents of the rete mucosum, and of the deep and formative layer of the horny epidermis." "I could see," he continues, "cells which I had scraped away from the under surface of the rete mucosum, containing several nucleated nuclei. I could see the nuclei connected with one another in a moniliform series. I could see the nucleoli dividing into two, and each division in its turn becoming an additional pair, while others shot out in the form of filaments, which bifurcated at the extremity into buds and branches. I therefore came to the conclusion that the phytiform (or *plant-like*) metamorphosis of the rete mucosum was nothing more than a morbid change inherent to that structure, arising like morbid structures in other tissues of the body, and dependent on morbid conditions of the part and of the individual whole." The fallacy, then, lies not in what Mr Wilson saw, which we do not dispute, but in the explanation of what he saw. If the parasitic fungi originated in the growing cells of the rete, we would in those diseases find no evidence of their presence on the surface till, either by the gradual advance outwards of these cells in the course of their transformation into horny cells, the fungi became superficial, or till the fungi themselves grew and insinuated themselves among the upper layers of the epidermis. But the contrary is the case; the fungi are first seen in the outer layers of the cuticle; and, according to the recent researches of Drs Thin and Taylor, they die whenever they penetrate among actively growing epithelium. They find, in fact, their proper pabulum in effete or unhealthy cuticle. The structure, also, of these vegetable parasites of the skin is identical with that of various forms of mould. Further, Kobner, Pick, and Neumann have transplanted the *Trichophyton tonsurans* from affected to sound parts, and found it flourish and develop identical phenomena. Mr Wilson lays little stress on the contagiousness of these diseases, and cites an instance (p. 61) where a boy affected with favus did not communicate it to the other pupils of a large school, though there was every apparent facility. Practically, however, the safer ground to act on with regard to contagion, is not to argue that a disease is non-contagious because many unaccountably escape, but that it is contagious because some take it. Mr Wilson admits that the parasitic theory offers a simple explanation of much that is difficult to clear up, if his view be accepted. Would it not be better, then, to recant at once, though late,—instances of such are not singular, witness Sir Thomas Watson and the theory of change of type in disease,—and cast in his lot, in this as in other points, with the majority?

Under the head of diseases of the nails, reference is made to the interesting observations of Dr Beau on the disturbance and suspension of nail-formation which accompany attacks of illness. Mr Wilson makes the following practical deductions from this:—"We feel the pulse of our patient; we look at his tongue—both indispensable items of inquiry; and if we desire to know the previous state of his health, we should further examine his nails. A smooth, unbroken uniformity of surface will indicate a steady and unchanging state of health; a grooved and uneven surface will point out a proneness to indisposition and illness, which may greatly influence our present treatment. This may be made the means of proof of a suspected but past attack of illness, and its usefulness in medical examination for life assurance will likewise be obvious."

Excess of hair and its removal is fully treated of; but much more important is the management of premature baldness. The subject is too intricate a one to be entered on in the space at our disposal. We must refer our readers to the book itself; the wide experience of the author, who has devoted much time and thought to this rather sore subject, enables him to give many valuable hints as regards the prognosis in premature baldness. Mr Wilson is encouraging, and looks on hopeless cases as the exception and not the rule. No doubt, there is a mine of wealth awaiting the fortunate discoverer of a veritable hair-renewer, which, however, does not so far hail from Mexico. Alopecia areata is regarded by Mr Wilson in common with most authors as of neurotic origin. Michelson, in a recent number of *Volkmann's Vorträge*, refers it rather to a subnormal development of the subcutaneous areolar tissue and of the cutaneous bloodvessels.

There is much that is original and suggestive in the part of the work devoted to diseases of the sebaceous and sudatory glands, and we would fain linger a little over the questions raised under acne and milium, but with a word or two on molluscum contagiosum, we must draw this notice to a close. Few of us have been so fortunate as to see twenty-five cases of this rare disease, at least within a limited period, as has recently been the lot of Dr Fox of New York; yet even he is doubtful as to its contagiousness, efforts at inoculation having been unsuccessful. The name given to it by Mr Wilson of molluscum adenosum is therefore more suitable as not involving a theory. When met with in adults Mr Wilson has found the eruption of these tumours to follow the use of Turkish baths, and thinks that the stimulations of the glandular system of the skin by the heat of the bath, when combined with the process of shampooing, is an active cause in their production. The close connexion which exists between molluscum adenosum and one of the eruptions resulting from the use of iodide and bromide of potassium where tubercles are formed, is pointed out, an illustrative case under the care of Dr Tilbury Fox being cited. Neumann, in the last edition of his work on skin diseases, has published the results of his microscopic investigations on the eruption resulting from bromide of potassium. And we may add, that he shows the close relation there exists between the two forms of disease from the anatomical as Mr Wilson and Dr Fox have from the clinical side of the question. With the recommendation to our readers to procure and study Mr Wilson's volume, we bid it adieu. We have only skimmed the surface of a very few points in these remarks.

The Surgeon's Handbook; or, the Treatment of Wounded in War. A Prize Essay. By Dr FRIEDRICH ESMARCH, of Kiel, Surgeon-General to the Prussian Army. Translated by H. H. CLUTTON, B.A. Cantab. F.R.C.S., Resident Assistant-Surgeon, St Thomas's Hospital. With 536 Woodcuts and 30 Coloured Plates. London: Sampson Low, Marston, Searle, and Rivington: 1878.

THIS work is not one on Military Surgery in its broad sense. It does not tell of the nature and variety of gunshot or sabre wounds; it says nothing of the health of armies or the sanitation of camps; but it does in the most admirably practical, clear, and sensible way "describe the different methods of bandaging and dressing, as well as the surgical operations as they occur on the battlefield." It is so distinct and precise that not only the surgeon who needs his memory refreshed will find it useful, but even the hospital-sergeant will be taught to dress wounds, and the unskilled ignorant labourer may in its numerous illustrations find the guidance he needs in preparing splints, bandages, and beds on emergency.

It occupies the ground which in this country is traversed by Moffitt's excellent work on *The Ambulance*, and by Porter's handbook; but in point of fulness and luxury of illustration it is an improvement on both of them. The various plans for dressing, bandaging, improving splints and slings, will be read with much interest, and the woodcuts in illustration are most satisfactory.

Less valuable, though more expensive and elaborate, are the coloured plates which illustrate the various operations for ligature of arteries, and amputation, and resection. Their brightness and beautiful clearness of outline will discourage, rather than assist, during the operation any one who would think of using the plates at all to refresh his memory.

The amputations described are nearly all called by some German name—Langenbeck's method, etc. Some we can recognise as old friends under different names. In nearly all we find the principle adopted which in this country has gradually been chosen, that of skin flaps—anterior the longest, as a rule.

Mr Clutton has done his part admirably, and the distinguished author may justly be proud of the manner in which his work appears in English guise, as paper, type, and illustrations are alike excellent.

Works like this are illustrations of the curious phase of international feeling so well described in the "New Ordeal:"[1]—"It was not sufficient for a nation to be skilled merely in taking life; in order to be deemed civilized, it must not only do its best to kill the enemy first, but it must be able to cure him afterwards. The more you killed and wounded the higher you were esteemed; and it might be observed of the nations of Europe, that superiority in culture and military skill were always to be found together; but in order to rank high, something more than even this was needed; and to let the maimed in battle, either the enemy's or your own, take care of themselves afterwards, was unanimously voted barbarous. The civilized nations of Europe all had their regular corps of bearers to carry the wounded off the field, and their brigades of nurses to take care of them afterwards, in neat uniforms and with regular pay and promotion and pensions, till things had got to that state of perfection when twenty thousand men or so might be knocked over of an afternoon, and all—that is, the survivors—taken away and put snugly to bed before night."

The House Surgeon; or, the Doctor at Home: Containing Instructions for the Prompt Treatment of Accidents and Emergencies before the Arrival of Medical Aid. By the late ALFRED SMEE, F.R.S., Surgeon to the Bank of England. Illustrated by Engravings prepared under the direction of the Author. London: published by the Accident Insurance Company (Limited).

THE name of this little book is misleading. It is not the House-Surgeon, but the House Surgeon. It tells sensibly and briefly what laymen may do for themselves or others before the doctor comes, or when there is no doctor. It will do more harm than good if it tempts one layman to treat himself instead of sending for a medical man. The illustrations are very rough, but distinct and instructive.

---

[1] *Blackwood's Magazine* for Oct. 1878.

A Practical Lecture on the Diseases of the Testis, and of the Spermatic Cord and Scrotum. By T. B. CURLING, F.R.S. Fourth Edition, Revised and Enlarged. London: J. & A. Churchill: 1878.

THIS admirable monograph still keeps its place as the first authority in the English language on its own special subject. A new chapter on Lymph Scrotum has been added, and also remarks on Congenital Hydrocele of the Spermatic Cord. In the chapter on Epithelioma, which is otherwise very complete, we fail to find any notice of the Paraffin Epithelioma, lately described in this Journal, as imitating and taking the place of the now rarer form of Soot Cancer.

The Pathological Anatomy of the Ear. By HERMANN SCHWARTZE, M.D., Professor in the University of Halle, etc. With the Author's Revisions and Additions, and with the Original Illustrations. Translated by J. ORNE GREEN, A.M., M.D., Aural Surgeon, Boston City Hospital; Clinical Instructor in Otology in Harvard University. In one volume, 8vo. Boston: Houghton, Osgood, & Company. The Riverside Press, Cambridge: 1878. London: Trübner & Co.

THIS is a very important and valuable addition to medical literature in the department of Otology. Schwartze's *Pathological Anatomy of the Ear* is the only comprehensive work strictly devoted to the pathological anatomy of this organ; and, by reason of Dr Schwartze's opportunities and long-continued studies in this field, his well-known thoroughness, and his strict impartiality in scientific researches, we have a work well worthy of appearing in the English language. That the translation should have fallen to such an accomplished scholar and medical practitioner, is highly fortunate. Dr Orne Green has been able, besides furnishing us with an admirable translation in the same concise language as the original, to give us additions and corrections by the author made since the publication of the German edition. "The translation is issued, both to show what has already been accomplished in this branch of Otology, and with the hope of directing still further attention to pathological anatomy, the only solid foundation for a still further advance in our knowledge of diseases of the ear." This is essentially a hand-book on the subject of which it treats—a small amount of space often sufficing to give the results of researches, the laboriousness of which can only be appreciated by those who have been engaged in similar work.

The directions given to enable the beginner in dissecting the ear, to fix upon a regular method of preparation, in order that important parts may not be forgotten, or destroyed during the dissection, are simple and can be easily carried out.

Besides an extensive bibliography, numerous references are given to established authorities. "Where the stated facts are not derived from personal observation and investigation, the result of nearly twenty years' experience in the anatomical and practical study of the human ear, the name of my authority is given in brackets."

Dr Schwartze's book, as we have it from Dr Green, will be of great service to the pathologist and physician of the present day. By the student this book ought to be carefully read during the latter years of study, or when all examinations are passed; much useful information will then be found in its pages pleasantly adapted for the improvement of what has been acquired.

A Practical Introduction to Medical Electricity. By A. de WATTEVILLE. London: H. K. Lewis: 1878.

De la Valeur Thérapeutique des Courants Continus. Par le Docteur TEISSIER. Paris: Baillière et fils: 1878.

Elettromiopatia. Del Conte CESARE MATTEI. 1878.

WE have received these three simultaneously. Books upon electricity descend upon us in showers.

There is much to be done in definitely ascertaining the value of electricity as a diagnostic agent. Possibly this may eventually be found to be the most important medical application; but a great work has yet to be accomplished in determining its therapeutic usefulness comparatively with other remedies in those cases in which it is known to be beneficial. How many valuable monographs might be written founded on careful clinical observations by men who are at once physicians and electricians. Practical and clinical research is what we require, and, perhaps, in fifteen or twenty years some one will be able to bring things together in a general view. On the other hand, we get a mass of text books, big and little, full of vague guesses and stuffed with padding.

We should have hoped better of Mr De Watteville, for, in some parts of his book, he shows that he has worked and studied; but what good end can it serve to exhibit page after page of dissected batteries in bad perspective from the prospectuses of surgical-instrument makers, and translate from M. Onimus a series of paragraphs containing a list of diseases treated, which is almost co-extensive with the nomenclature of the College of Physicians.

M. le Docteur Teissier having thought proper to compile a book on constant currents, if he had little original to communicate, might at least have studied accuracy in historical *résumés*. At the same time, there are scattered through the work a number of interesting clinical cases collected from various sources.

Elettromiopatia shows how admirably our subject lends itself to quacks.

The Student's Guide to the Medical Profession. By CHARLES BELL KEETLEY, F.R.C.S., Assistant-Surgeon to the West London Hospital, late Assistant-Demonstrator of Anatomy at St Bartholomew's Hospital. London: Macmillan & Co.: 1878. Pp. 64.

THIS nicely got up and inviting little book is well fitted for guiding both students and their guardians. It is written by one who understands his subject thoroughly, although most of the topics are viewed by him, perhaps unavoidably, from the London standpoint. The information given is accurate and precise, and the author's style is lively, genial, and sometimes amusing. Altogether, the brochure is very readable, terse, and easily mastered. A few quotations will substantiate what we have said.

"It is the privilege of this art, more especially of that branch of it called surgery, that it can use to the best advantage every gift with which a man can be endowed. Has he judgment? He needs it to the utmost in the diagnosis and treatment of case after case. Has he decision? How often life and limb depend on the surgeon's promptitude! How quickly the life-blood ebbs away whilst the irresolute mind swings this way and that! Has he memory? Consider the enormous number of dry facts the student has to remember on the day of his examinations. Has he tenderness of heart? Alas for the thousands of the poor and wretched if he has not! There are some among the outcasts of the world who never find a soul to recognise their common humanity except it is the doctor. They live their lives in shadow, like horses who work in the mines, and their only glimpses of sunshine strike from the heart of the doctor into their own. There should be no place in our profession for the cruel and indifferent. Decision of character, coolness of nerve, and directness of purpose are certainly required in a good operating surgeon; but what have these things to do with hardness of heart? But I suppose when people say a surgeon should be hard-hearted they are only joking. . . . Has he gifts of person? *Potest quia posse videtur.* Who will deny that there is healing in the kindly eye and cheerful face, encouragement in the manly figure and intellectual aspect, even a soothing balm in the face and form of those on whom fortune has bestowed beauty and grace?

"It is good for two students to live together; it is economical and cheerful. If the students are already inclined to work, they will work all the more for the arrangement; and even if they are inclined to play, they will very likely not work less. But in this matter much depends on individual character. Some horses go best in single harness, some in double.

"The most important advice is this: keep your knives sharp, never let them get blunt; have a stone and strop by your side, and touch up your knife every few minutes. Anatomy is learned almost without effort by the good dissector.

"A house-surgeoncy is, in my opinion, worth more to the general practitioner than a house-physiciancy."

Mrs Garrett-Anderson, M.D., has contributed a special chapter for ladies who propose to study medicine. It is sensible, practical, and high-toned. Now that ladies have a school of medicine of their own at 30 Henrietta Street, Brunswick Square, and can see hospital practice at the Royal Free Hospital, Gray's Inn Road, we wish them all success in their studies. The closing paragraph is applicable alike to women and to men:—

"The work is no doubt great and difficult; but many other people, not by any means geniuses, manage, with patience and diligence, to master it so as to do a great amount of good in their day, and to support themselves and their families. Unsuccessful merit is exceedingly rare either among men or women; and made up as the human race is, people need not be very highly gifted to get on very fairly well if they have the moral qualities needed for success in any department of life. Among these it may not be useless to remind female medical students of the immense value of good temper. The power to meet disapproval and even hostility good-humouredly, to be able to ignore and go on one's way cheerfully and calmly in spite of it, is a precious weapon to those who are working for a cause still regarded by many with prejudiced disapproval."

Part Third.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION LVIII.—MEETING I.

Wednesday, 6th November 1878.—Dr SANDERS, *President, in the Chair.*

Dr Sanders welcomed the Members at the beginning of a new session, and hoped it would be an instructive and profitable one.

EXHIBITION OF PATIENTS.

I. *Dr Cadell* showed a WOMAN suffering from TERTIARY SYPHILIS. At present she had gummata in both external auditory meatuses, and one over the head of the fibula. These had improved under iodide of potash.

The BOY whom he now showed had no symptoms of syphilis, although he had been nursed during the mother's attack. Another BOY, 7 years of age and younger than the previous one, had well-marked syphilis, viz., interstitial corneitis as well as a general syphilitic look. The woman was at present nursing a baby, six weeks old, with amyloid disease of the liver. A previous baby had died when six weeks old from the same disease. Neither of the two had snuffles nor skin eruptions, only visceral lesions. Thus, this woman, although at the ninth year of her disease, could still transmit it to her children. So far as could be seen the husband was healthy.

II. *Dr W. A. Jamieson* showed a new ointment, UNGUENTUM VASELINI PLUMBICUM, introduced by Kaposi of Vienna. Hebra's diachylon ointment, although good, was irritating. That which he now showed them was made of equal parts of vaseline and emplastrum plumbi (*v. Wiener Medicinische Wochenschrift*, Schmidt's *Jahrbuch*). He had employed it in cases of eczema, lupus, etc., with good results. When used it should be spread on strips of linen and bound tightly down.

III. *Dr W. A. Jamieson* then read a paper on THE HISTOLOGY OF PSORIASIS, which appears at page 622 of this Journal.

Mr Bell could not allow such an able and careful paper, illustrated with so many beautiful microscopic specimens, to pass without comment. His own impression of it was that, apart from his deficient education as a surgeon, he would require to read it in print, as the important points were so many and difficult. He wished to know if arsenic, when given in such large doses, led to any distressing symptoms.

Dr Sanders asked if the patients objected to part of their skin being removed for microscopic examination. Specimens of skin removed from the cadaver were not satisfactory. He was interested in the facts brought forward, showing that the disease began in the *rete mucosum*, and not from the corium. The cell growth seemed the first step and the hyperæmia subsequent. He was not in a position to make any observations on the physiological action of arsenic, and it was difficult to see how it acted on these special cells and not on others. Dr Jamieson's contribution was an interesting and valuable one.

Dr Jamieson said, in reply, that the piece of skin taken was generally about two lines in breadth and three in length. As it was removed under the ether spray the patient had no pain. He had had no experience yet as to the inconveniences of large doses of arsenic. He began with 1-20th grain of arsenious acid. A friend of his found that ¼ gr. daily acted on the bowels. He thought that the hyperplasia previous to hyperæmia was now well established.

IV. *Mr Chiene* then read OBSERVATIONS ON KNOCK-KNEE.

The *President* would be glad to hear any remarks on this interesting practical communication.

Mr Bell was old enough to remember when the brothers Meyer, twenty years ago, evolved from their inner consciousness the plan of removing a wedge-shaped piece of bone from the inner condyle of the knee for the remedy of knock-knee, as well as to have heard how the surgeons then laughed at this proposal. Within the past three or four years, however, they had made great strides. He had no hesitation in saying, and he felt sure all surgeons would agree with him, that Mr Chiene was too modest in giving Ogston all the credit. Mr Chiene's method was, he believed, the best. It was the most easily done, and when performed just as Mr Chiene recommended, with Esmarch's bandage, the chisel, and, above all, with Lister's antiseptics, an operation almost devoid of danger. His only *caveat* would be, that every one should not do it, as the knee-joint might be opened and a life and limb perilled. He thought that, in the next two years, cases would be operated on where mechanical appliances would probably have been sufficient. In one case the success of mechanical appliances lost him his operation. If mechanical appliances failed, then Chiene's operation would succeed. The danger with Ogston's operation was, that they did not know exactly where the saw went, and therefore they might go too near the popliteal artery.

Dr Cossar-Ewart said that, according to Mr Ogston and Mr Chiene, genu valgum resulted from an increase in length of the internal condyle. It seemed to him rather to be due to an arrest in the development of the external condyle and the outer portion of the shaft of the femur, this arrest being the result of undue pressure on the outer portion of the layer of cartilage, which exists between the shaft and the epiphysis, to admit of the increase in the length of the bone. In a transverse vertical section through the lower end of a femur from a knock-knee patient, the temporary cartilage is wedge-shaped—nearly a quarter of an inch in thickness between the shaft and the internal condyle, but only about one line in thickness between the shaft and the external condyle. The rational treatment in many cases would, therefore, be to remove the pressure by means of weights from the outer portion of the layer of cartilage, and, perhaps, as practised by some French surgeons, to endeavour to set up increased growth by irritating the latent cartilage.

Dr Symington pointed out that Dr M'Ewen of Glasgow had given up Mr Chiene's method of operating, as he considered it not so good in its results, and was afraid of fracturing into the joint. He now did Mr Lister's old operation, viz., he made a wedge-shaped opening halfway through the shaft above the condyles. If the tibia was curved he operated on it too. He wished to know if visible escape of synovial fluid followed a cut into a synovial sac.

Mr Chiene thanked the members for their kind criticisms. He thought that mechanical appliances should be tried first. He was glad Dr Ewart had spoken, as his view was an interesting one. The method Dr M'Ewen now adopted was not exactly Lister's. Mr Lister removed a *wedge* at a higher level than the *incision* made by Dr M'Ewen through the bone with the chisel. He had difficulty in seeing how Dr M'Ewen avoided crushing the bone.

OBSTETRICAL SOCIETY OF EDINBURGH.

SESSION XXXVIII.—MEETING I.

Wednesday, 13*th November* 1878.—Dr WILSON, *President, in the Chair.*

I. CARCINOMA CERVICIS UTERI ET ORIFICII URETHRÆ, TERMINATING FATALLY BY RUPTURE OF THE UTERUS.

Professor Simpson showed a preparation of the genital organs of a woman who had suffered from cancer of the cervix uteri, complicated with deposits at the urethral orifice, and in whom the immediate cause of death was the rare occurrence of a rupture of the body of the uterus. The history of the case, as taken from the Ward Journal, was as follows:—

Isabella F., aged 60, a domestic servant, was admitted on 29th October 1878, to Ward 12 Medical, suffering from retention of urine.

History of Present Attack.—About a week previous to admission patient began to have difficulty in micturition, which gradually got worse till two days before she came into the Infirmary, when she was quite unable to relieve herself.

Her previous health was always good.

Present Condition.—External.—She is a well-developed woman, of average height and weight, but her muscles are now much wasted; the expression of her face is somewhat anxious; the skin is soft and moist. Temperature 98° F.

Menstrual and Obstetric History.—Her menstruation was always regular. She had two pregnancies, the labour in both cases being natural and easy. Cannot remember when she stopped being unwell.

Physical Examination of the Abdomen.—The abdominal parietes are lax, and scars of previous pregnancies are seen. There is distinct fulness on the left side, partly in the hypogastric and left lumbar regions, but chiefly in the left iliac. On palpation this has a somewhat fluctuating feel. Percussion confirms palpation, and auscultation is negative.

Per Vaginam.—The ostium vaginæ is patulous. Round the urethral orifice a thickening is felt, which is ulcerated on its vaginal aspect. The cervix is small, but hardened and eroded, and immovably fixed in the indurated roof of the vagina. Bimanually the mass described under abdominal examination is found to be the enlarged uterus. No sound was passed.

Progress of the Case.—The patient was first admitted to the

Surgical Wards, where more than six quarts of urine were drawn off. As she continued unable to make water she was admitted to Ward 12, where it was drawn off twice daily till she died. About noon on 4th November she began to complain of violent pain in the abdomen, especially in the hypogastric region; this continued till she died shortly after midnight of the 4th.

Treatment.—The urine was drawn off twice a day. Morphia was administered to relieve the pain, and the night before she died ether was injected subcutaneously by Dr Hart, and brandy was given by the mouth.

The post-mortem examination confirmed the diagnosis which had been formed that the case was one of carcinoma of the cervix uteri and around the urethra, and that escape of some noxious fluid had occurred into the peritoneum. Two indurated epithelial masses could be seen at the extremity of the urethra projecting towards the vagina and narrowing the urethral tube. The form of the cervix uteri was still maintained, though epithelial deposits had taken place in its walls and extended into the pericervical areolar tissue, and there was commencing necrosis of the surface at the os externum. The lumen was contracted, and the cavity of the uterus greatly expanded above. The walls of the uterus were thinned out so as to give it the form and appearance of the urinary bladder. There was a quantity of sanious fluid still in the interior, and the mucous membrane was the seat of a diphtheritic-looking deposit consisting of decomposing blood-clot and broken-down epithelial cells. At the fundus towards the left side and posteriorly there was a small perforation, the size of a pea, with thin edges, through which the rest of the fluid had escaped and set up the rapidly fatal peritonitis.

II. CARCINOMA VAGINÆ IN A PREGNANT FEMALE.

Professor Simpson had recently had another rare and interesting case of malignant disease of the genital organs in his Ward, and he thought it well to take the opportunity of mentioning it to the Society. The patient was admitted on 7th October complaining of pain in the back and down the outside of the thighs, but more especially of inability to pass her water. When she stated that she was about three months pregnant, the idea naturally occurred to Dr Hart, who first saw her, that it was probably a case of retroflexion of the gravid uterus. Examination, however, showed that, whilst the organ was of the size of the ordinary three months gravid uterus, it was in its normal position, but kept pressed forwards by a large firm mass occupying the whole of the posterior vaginal wall. On closer scrutiny this was found to be an epithelial cancer, commencing half an inch within the vaginal orifice, extending up the whole extent of the back wall, and laying hold of the upper portion of the posterior aspect of the portio vaginalis. The surface was eroded, but there was little or no discharge. The patient, 37 years of age, married 13 years ago, and mother of seven children, had enjoyed good health till about two months before admission; but when she came under observation she was already pale and weak, with an anxious, worn expression, and a feeble, frequent pulse. The action of the bowels had latterly become painful. Quinine was administered and opiates applied for the relief of the fever and pain; but her condition went on deteriorating. The cancerous mass began to ulcerate towards the rectum, and the patient sank into a typhoid condition, and died on 7th November. The question of artificial abortion was discussed, but set aside, as it would probably only have hastened her end. Unfortunately he was unable to show any preparation of the parts, as a post-mortem had not been permitted.

Dr Keiller remarked that Dr Simpson's cases and preparations were specially interesting because of their comparative rarity, an opinion which his experience of the usual course of such cases enabled him fully to corroborate. He had seldom witnessed carcinoma of the lower parts of the genital canal extend so high as to end in peritoneal rupture, which was an occasional though somewhat uncommon termination of uterine carcinoma.

III. *Dr Baird*, Perth, read a paper ON THE ETIOLOGY OF PUERPERAL FEVER, which will appear in a future No. of this Journal.

Professor Simpson thanked Dr Baird for coming so far, and bringing so valuable a contribution. He would have liked more detail in relation to the cases which occurred to Dr Baird's friend; the cases may not all have been due to the same cause. In his systematic course he always heads the lecture on this subject "The Puerperal Fevers." Sir J. Simpson taught the similarity or rather identity between puerperal fever and ordinary wound fever. We are all familiar with scarlet fever as a cause of puerperal fever, and a previous attack does not necessarily protect a puerperal any more than another patient from a new attack, though both in the puerperal and in other patients a second attack is not likely to be so dangerous. When it attacks a woman during early pregnancy it may cause abortion, and, if near labour, miscarriage; if after labour, it may run its course very rapidly and prove fatal before the rash or sore throat appear. In Dr Baird's own case there appeared to have been some morbid condition present from the time of labour; the poison was there, but was not great in quantity or severe in character. When the erysipelatous blush appeared the true features of the case came on. The puerperal condition causes women to suffer from a very slight introduction of poison.

Dr Keiller remarked that the Society could never hear too much about puerperal fever, and considered Dr Baird's excellent observations not only most welcome, but worthy of all commendation. The subject of the communication was full of interest and practical import; it had often been brought forward and discussed in this and kindred societies, and though viewed and reviewed in all its bearings, it must be confessed that no small measure of "Dundrearyism" still exists regarding it. It is extremely difficult to say how much has been actually proved beyond all doubt as to its contagiousness—a point still so open to question as to make us hesitate in speaking boastingly of our specially advanced enlightenment. From being professionally older than perhaps any one present, he had enjoyed, at all events, a longer time for, if not also a longer practical experience in, observing and considering this by some settled matter; and the conclusion he had come to and was guided by after the most distracting, and therefore inconclusive, evidence for and against was this, that whether puerperal fever be or be not in the strictest sense of the word contagious, the duty of the accoucheur was clearly that of giving the benefit of the doubt to his parturient patients, by using every precaution against the communication of contagious influences. Dr Keiller referred to one or two cases in which he suspected he had personally communicated mischief ending in puerperal fever and death, but compared to the numerous times he had in consultation and otherwise exposed lying-in women to the risk of contagion, such instances were immeasurably few and far between. Years ago, when Physician to the Sick Children's Hospital, and when in daily attendance in the fever wards where scarlatinal cases were common, he had frequently been summoned directly to deliver women, and yet failed to remember a single instance of having conveyed this fatal parturient poison. Notwithstanding, however, such immunity from personal experiences against the contagious idea of puerperal fever, he did not defend any such rashness, seeing that the evidences produced by others were so numerous and so striking as not to be discarded, but rather, on the contrary, acknowledged and duly provided against. Instead of lightly treating the many proofs advanced in favour of contagion, he invariably endeavoured to practise and to teach the duty of extreme caution in order to avoid being the channel of communication either through touch or otherwise, as by exhalations from infected clothing, respiration, etc. Dr Keiller specially referred to what he believed may occasionally prove a source of parturient mischief during ordinary digital examination, viz., the possibility of danger arising from previous gynæcological manipulations, where the examining fingers are so frequently besmeared with purulent or other more gravely tainted exudations. So strong were the views he entertained as to our duty in regard to this important matter, that he had for years past been in the habit of using the left hand for digitally investigating the diseases of women, and keeping the right hand in this way ready and comparatively clean for midwifery use. There was here, he thought, an obvious and mighty advantage in the obstetrician and gynæcologist being capable of ambidextrous adroitness, the practice of which he recommended and endeavoured to pursue for the greater safety of those who entrust their lives in our hands, which should, like our consciences, be kept as clear from defilement as possible.

Dr Peel Ritchie thought that, in Dr Baird's case, in which the fever came on three days after supposed infection with scarlet fever, he might relieve himself of the apprehension that he had communicated that disease. It had probably been so from another source previous to the patient's confinement. The incubative period, in his opinion, was too short; for, in the wards of the Sick Children's Hospital, he had never found the time of development of scarlet fever less than five days. Again, in his opinion, it was possible that infection might be caused by the breath, or by exhalations from the body, of a practitioner. Reasoning from the smell given out by one for some time after attending a post-mortem, which had been received into the system by inhalation, he considered the materies of puerperal fever might be taken into, and given out from, the person of the practitioner, and that disease might be conveyed in this way, although all proper care to cleanse the fingers was taken. In the instance of Dr Baird's friend, who had met with so many cases of fever in his practice, he believed mere local disinfection of the hands was insufficient. The whole system should be disinfected by means of such agents as the sulpho-carbolate of soda and the hot-air or Turkish bath. In one case of his own, white leg had come on, but not until more than three weeks after the labour. He had listened with much pleasure to Dr Baird's paper.

Dr Ballantyne, in his own experience, had found the incubation period to be only three days. He mentioned a case where a lady had brought scarlet fever from a lodging-house; it remained undeveloped until three days after the labour was over. Possibly in these cases the disease was not true scarlet fever, but was a septicæmia brought about by some of the putrescent results partly of scarlet fever. He was aware of some cases where septicæmia had occurred after the surgeon had opened putrid abscesses.

Dr J. Young had seen some fatal cases of puerperal septicæmia. One case occurred in St Bernard Crescent some years ago, where the labour was easy and rapid. Fever was developed on the third day, and rapidly ran a fatal course. Dr Keiller saw the patient. Dr Young had no other similar case at the time, neither fever nor erysipelas. A second case occurred a year thereafter, where the patient died from what was supposed to be the result of sewage gas, producing all the symptoms of septic poisoning, with fever. He went from this case to another patient after change of clothes, and washing. She made an excellent recovery. Sir James Simpson saw the second case. In his opinion, nurses very probably had more to do with the carrying of infection than the general practitioners.

Dr Wilson had no doubt that some of these cases were non-contagious, though many authors had published a series of cases occurring in their own practice. If a man has had two or more cases in his practice it was his bounden duty to give up practice for the time. Possibly the scarlet-fever cases were not so easily communicable as the septicæmic ones. He knew of two cases where the babies took erysipelas after the mothers died of puerperal fever.

Dr Keiller had no doubt of the close connexion or great similarity between erysipelas and puerperal fever. These two diseases are frequently prevalent at the same time. Many years ago, he had published a paper on the subject in the *Northern Medical Journal,* in which he gave illustrative cases. He believed in the views entertained and clearly enunciated by the late Sir James Simpson as to the placental site being frequently an originator of septicæmial mischief after labour, giving rise to puerperal, as amputation wounds do to surgical, fever.

Dr Bruce had seen several cases of the disease. He believed it might arise from a number of different sources. He only once suspected that he had carried the fever from one diseased woman to another; some of them were infectious, and some not. Precautions should be taken in all cases. One case should not cause a man to give up his practice for a time. He believed that the infection was caused not only by the hands, but in some way or another by emanations from the individual himself. His conclusions agreed very much with what Dr Keiller had said on this matter. With proper disinfection of hands there was little fear of carrying infection.

Dr Baird expressed his satisfaction at the reception given to his paper, and replied briefly to some of the criticisms upon it.

ODONTO-CHIRURGICAL SOCIETY.

THE session of this Dental Society was opened on Thursday the 14th inst. The President, Mr D. HEPBURN, L.D.S., in his introductory remarks, said :—

GENTLEMEN,—It is not my intention to test your powers of endurance by inflicting a second inaugural address upon you, but you will allow me to say, that it gives me very great pleasure to meet with you all as members of the Society once more, and to express the hope that by our united efforts we may be able to render our meetings this session as instructive, as profitable, and as pleasant as those of its predecessors have been. At this time last year I took occasion to draw your attention in a brief historical sketch to the objects and aim of this Society, which was designed to elevate the profession and raise a higher standard of moral and intellectual activity among us. Since then a great advance has been made in this direction by the passing of " The Dental Practitioners Act,"—an Act which has realized the aspirations of many of the most earnest workers in the profession, and given a fresh impetus to the whole body, which cannot fail to influence for good this and all similar societies. Of the gentlemen to whose indefatigable labours and untiring energies we are mainly indebted for this great boon to the profession, it is not my present intention to speak, as I hope and believe a fitting time and place will be found when the whole body will, through a more able channel, express its indebtedness to those men. Meanwhile I think it only right and proper that the Odonto-Chirurgical Society should at this, its first meeting, mark its appreciation of these services by passing a cordial vote of thanks to Mr Tomes and those who laboured with him. We are also indebted to the Royal College of Surgeons here for its acceptance of that measure, and especially for the desire shown, as evidenced in its proposed curriculum for dental students, to keep the profession up to a high level and carry out the Act in all its integrity. I think, Gentlemen, we have all been more or less deeply interested in that movement, and I cannot help feeling something akin to pity for those men who could look coolly on with folded hands while a struggle so pregnant with the future and well-being of the profession was going on. But now that the battle has been fought, I hope they will awake from this lethargy, and that all parties, casting aside their weapons of offence and defence, will cordially unite to carry out the educational and scientific requirements called for by the Act. The universal title to registration which it gives and enforces, at once places all practitioners upon an equal platform, and settles many vexed questions that have hitherto proved a bar to union and progress. It remains now to be seen how large a number will show themselves abreast with the times by sustaining the dignity of professional men conferred upon them, and bringing themselves and their modes of practice in accord with those unwritten laws of honour which are understood to guide all who hold that position. Those who aspire to this would do well at once to conform to the rules of this or the Odontological Society, and, by becoming eligible for membership, enjoy the advantages and privileges which naturally flow from connexion with such societies. I would, therefore, impress upon members the desirability of making their influence felt in this direction, not in the interests of the Society only, but in that of the profession generally. The new and hopeful prospect now opened up to the profession will, I trust, Gentlemen, encourage us to carry on the work of this Society with renewed energy and vigour.

I. A paper was then read by *Mr J. R. Brownlie, L.D.S.*, Glasgow, ON A METHOD OF TESTING AMALGAM AND OTHER FILLINGS BY ATMOSPHERIC PRESSURE, and illustrated by experiment. The test consisted in seeing how air could be sucked through any interstices between the filling and the sides of the cavity, and the means employed was the weight of a column of liquid. He had found this a much more delicate test than the ordinary one of the infiltration of coloured liquids, besides being applicable to all materials whether gold, etc., or plastic. A cordial vote of thanks was given to Mr Brownlie.

II. CASTS and SPECIMENS of several ABNORMAL CASES were shown by *Messrs Brownlie* and *Wilson*, as also an interesting PREPARATION of the DENTAL APPARATUS in the WHITE SHARK (*Carcharias*) by *Mr Watson.*

III. *The President* exhibited CASTS of the UPPER and LOWER JAWS of an AFRICAN DWARF (General Adonis Coffee), who, he understood, was now in England. The casts and photograph were sent for presentation to the Society by one of their honorary members, Mr Bell, Grahamstown, who states that the dwarf was born at Pretoria, Transvaal Republic, is now in his twenty-fourth year, and is 37 inches in height, but gives no further particulars. The upper jaw seemed normal in size, and contained the usual number of teeth, though very small—so much so, indeed, that the incisors and canines had all the appearance of temporary ones. The lower showed large spaces where the canines ought to be, and two bicuspides were wanting.

The President then intimated the next meeting to take place on the second Thursday in November. After voting £10, 10s. to the New Dental Hospital and School, the meeting separated.

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION

Part Fourth.

PERISCOPE.

MONTHLY REPORT ON THE PROGRESS OF THERAPEUTICS.

By WILLIAM CRAIG, M.D., F.R.S.E., Lecturer on Materia Medica, Edinburgh School of Medicine, etc., etc.

THERAPEUTIC ACTION OF CHLORHYDRATE OF PILOCARPINE.—Pilocarpine is the active principle of jaborandi. This last is a remedy that has powerful sodorific and sialogogue properties; it has, however, a disagreeable taste, and distresses the stomach, producing nausea, vomiting, and sometimes colic. It also occasionally produces vertigo and fainting. It was natural, then, that a more surely acting agent should be looked for in its active principle, which, at first named jaborandine by Byasson, has been obtained in a more pure condition, and entitled pilocarpine by M. Hardy. The action of this has been the subject of two theses: one by Dumas (1875), and the other by Kercéa (1877). Dr Metaxas has recently been employing it with advantage in his ophthalmological clinic, and the results of his experiments have been published by Dr Alexandroff. He has found that it may be advantageously employed in the form of endermic injection in rheumatic iridochoroiditis and iritis, and to be especially useful in affections of the vitreous. The effects observed by Dr Alexandroff were as follows: The quantity injected being five drops of a solution containing 10 per cent. of pilocarpine, *i.e.*, about 2 centigrammes, salivation manifested itself about the second minute after injection, sweating occurred about the third minute, commencing always about the head. The ptyalism was always preceded by heat and congestion of the face. In all instances diarrhœa was experienced. Epiphora was constant, and was accompanied by hyper-secretion of the nasal mucous membrane. No galactagogue influence was observed. The menstrual function was unaffected. In one case the renal secretion was augmented, but in the remaining thirty-nine cases it remained normal. The pulse invariably augmented in frequency immediately after the injection, and then gradually sank. The pupil became contracted. Rigors were sometimes observed, and præcordial pain (*Pamphlet*, 1877).—*The Practitioner*, November 1878.

THE TREATMENT OF PSORIASIS BY ARSENIC IN LARGE DOSES.—Dr Lewis Shapter gives an account of several cases which he has successfully treated by the administration of arsenic in doses one-fiftieth to half a grain. The arsenic was given in the form of arsenious acid, and was found to be useful when other means, such as carbolic acid and Donovan's solution, were ineffectual. Some physiological symptoms were induced, but of these comparatively slight notice is to be taken, and it is only if persistent and aggravated physiological effects are produced that the remedy is to be abandoned. Dr Shapter suggests that the arsenic should be given in much larger doses than has been hitherto done, remarking that the required curative dose is only reached when some marked effect is produced on the disease. The first effects of the remedy are to make the cutaneous redness and scaliness more manifest, but this apparent increase of the disease, as well as trifling symptoms, such as slight irritation of the conjunctiva or gastric pain, should only show the necessity for a continued use of the arsenic, and should not lead to its being discontinued. By the use of a large dose of arsenious acid a powerful nerve tonic is obtained, which can, in many cases, be administered without the objection of causing any of those physiological effects to which the use of either phosphoric or carbolic acid gives rise. It is therefore suggested that arsenic should be employed in large doses to continue the work begun by phosphorus or carbolic acid, if these drugs are chosen in the first instance in preference to arsenic. The arsenious acid was administered either in solution or in pill with bread-crumb, since in this form the dose can be more easily regulated, while its combination with pepper, caustic potash, soda, and iron, only tend to its rejection by the system. The external treatment during th administration of arsenious acid consisted solely in the preserva tion of cleanliness (*The Lancet*, Oct. 1878). — *The Practitione* Nov. 1878.

A NEW REVULSIVE.—What is required to answer the purpose o a revulsive is an agent whose action is at once rapid and prolonged and which provokes a sharp revulsion without pain or itching. This agent is pimento, or rather its extract, which has just been made known by M. Lardy. It acts with great rapidity in ten to twenty minutes, according to point of application and delicacy of the skin. Its action from the first is manifested by heat, slight smarting, and redness. These phenomena increase for about three hours, then remain stationary, and the revulsive action continues as long as desired. After twenty-four hours, however, in adults, and eight or ten hours in children, it is best to remove the plaster, or put another in a new place, if further revulsion is desired. The heat and smarting caused are not painful, and do not hinder the patient from his occupation. There is no itching, and the action always remains localized. It may well be compared to that of mustard arrived at the half of its power, and thus remaining for twenty-four hours. The colour of the extract is a beautiful red; when properly incorporated with some plastic mass, and spread on squares of paper, its application is easy. It is not necessary to heat it, as it adheres readily. Its action is augmented by pressure. After removal the heat and smarting may be relieved, if desired, by the application of starch. Care should be taken not to bring it in contact with the eyes, lips, or nose, on account of the smarting caused by it in those regions (*The Chicago Med. Journal and Examiner*, April 1878).—*The Practitioner*, November 1878.

SUBNITRATE OF BISMUTH.—Professor Gubler, speaking of this substance at the Académie, observed that it is a mechanical absorbent, just like any other dry powder; and it is a certain antacid, for while it does not absorb carbonic-acid gas, which is secondary, it efficiently absorbs the normal acids in excess in the gastric juice, and especially the acids formed accidentally, at the expense of alimentary or other matters introduced into the *primæ viæ*—acetic and lactic and volatile fatty acids. Moreover, the basic salt of bismuth possesses the very great advantage of absorbing sulphuretted hydrogen gas, or of producing with the sulphohydrate of ammonia, by double decomposition, nitrate of ammonia and sulphurate of bismuth. In this latter effect bismuth can only be replaced with difficulty—chalk, in particular, the employment of which would be so convenient, so cheap, and so inoffensive, not seizing hold of sulphuretted hydrogen. Oxide of zinc is the only other substance that can fulfil all the indications so well met by bismuth, and it easily becomes nauseating or emetic. It is, however, a remarkable thing that this inconvenience especially occurs when small doses of the oxide are employed—as from a twentieth to a fifth of a gramme—which always meet with enough acid in the stomach to convert them into neutral salts. When large doses are given—as a half to one, two, three, and four grammes per diem—they are exempt from all emetic properties, and especially when united with sufficient bicarbonate of soda to neutralize the acids of the *primæ viæ*. This combination furnishes excellent results in the same cases in which bismuth succeeds.—*Medical and Surgical Reporter*, 19th Oct. 1878.

ACETIC-ACID INJECTIONS IN CARCINOMA.—Acetic acid, used subcutaneously in cancer is by no means a novelty, but does not deserve to be forgotten. It has been revived of late by Dr T. Gies, who states, in the *Zeitschrift fur Chirurgie*, that he effected marked improvement in a case of cancer seated on the ramus of the lower jaw, which had returned after operation, and had attained the size of a fowl's egg, by the injection of acetic acid in the proportion of one part of the acid to three of water. The tumour speedily underwent reduction of size, and was ultimately no larger than a hazel-nut. The same patient had a second tumour of the size of an egg beneath the ear, which almost entirely disappeared in the course of twenty-one days, after twenty-five injections of strong acetic acid. In a woman, again, who had a carcinoma of the size of a pigeon's egg on the left mammary gland, ten injections effected its removal in great part in the course of a month, reducing it to the size of a hazel-nut.—*Medical and Surgical Reporter*, 19th Oct. 1878.

EFFECTS OF RHUBARB AND SANTONIN ON THE URINE.—Dr J. Munk found that after the internal administration of both rhubarb and santonin the urine was of a greenish colour, and that in both cases the addition of alkalies changes this to red. Notwithstanding this resemblance there are points of difference: 1. Alkaline carbolates produce the reddish colour almost instantly after rhubarb has been taken, while after santonin the change is exceedingly slow. 2. This change of colour of the rhubarb urine by alkalies is permanent; that after santonin passes away in twenty-four to forty-eight hours (if caustic soda be employed, it may last longer). 3. The rhubarb urine, coloured red by alkalies, is discoloured by digestion with steel filings; that after santonin is not. 4. By adding to the rhubarb urine an excess of baryta or lime-water and filtering, the deposit retains the reddish colour, and the filtrate remains clear; on the contrary, in santonin urine the pigment remains in solution, leaving us a reddish filtrate and an uncoloured sediment (Virchow's *Archiv*, Bd. 72).—*Medical and Surgical Reporter*, 12th October 1878.

CHLORAL AS AN ANÆSTHETIC FOR CHILDREN. — Dr Bouchut

Surgical Wards, where more than six quarts of urine were drawn off. As she continued unable to make water she was admitted to Ward 12, where it was drawn off twice daily till she died. About noon on 4th November she began to complain of violent pain in the abdomen, especially in the hypogastric region; this continued till she died shortly after midnight of the 4th.

Treatment.—The urine was drawn off twice a day. Morphia was administered to relieve the pain, and the night before she died ether was injected subcutaneously by Dr Hart, and brandy was given by the mouth.

The post-mortem examination confirmed the diagnosis which had been formed that the case was one of carcinoma of the cervix uteri and around the urethra, and that escape of some noxious fluid had occurred into the peritoneum. Two indurated epithelial masses could be seen at the extremity of the urethra projecting towards the vagina and narrowing the urethral tube. The form of the cervix uteri was still maintained, though epithelial deposits had taken place in its walls and extended into the pericervical areolar tissue, and there was commencing necrosis of the surface at the os externum. The lumen was contracted, and the cavity of the uterus greatly expanded above. The walls of the uterus were thinned out so as to give it the form and appearance of the urinary bladder. There was a quantity of sanious fluid still in the interior, and the mucous membrane was the seat of a diphtheritic-looking deposit consisting of decomposing blood-clot and broken-down epithelial cells. At the fundus towards the left side and posteriorly there was a small perforation, the size of a pea, with thin edges, through which the rest of the fluid had escaped and set up the rapidly fatal peritonitis.

II. CARCINOMA VAGINÆ IN A PREGNANT FEMALE.

Professor Simpson had recently had another rare and interesting case of malignant disease of the genital organs in his Ward, and he thought it well to take the opportunity of mentioning it to the Society. The patient was admitted on 7th October complaining of pain in the back and down the outside of the thighs, but more especially of inability to pass her water. When she stated that she was about three months pregnant, the idea naturally occurred to Dr Hart, who first saw her, that it was probably a case of retroflexion of the gravid uterus. Examination, however, showed that, whilst the organ was of the size of the ordinary three months gravid uterus, it was in its normal position, but kept pressed forwards by a large firm mass occupying the whole of the posterior vaginal wall. On closer scrutiny this was found to be an epithelial cancer, commencing half an inch within the vaginal orifice, extending up the whole extent of the back wall, and laying hold of the upper portion of the posterior aspect of the portio vaginalis. The surface was eroded, but there was little or no discharge. The patient, 37 years of age, married 13 years ago, and mother of seven children, had enjoyed good health till about two months before admission; but when she came under observation she was already pale and weak, with an anxious, worn expression, and a feeble, frequent pulse. The action of the bowels had latterly become painful. Quinine was administered and opiates applied for the relief of the fever and pain; but her condition went on deteriorating. The cancerous mass began to ulcerate towards the rectum, and the patient sank into a typhoid condition, and died on 7th November. The question of artificial abortion was discussed, but set aside, as it would probably only have hastened her end. Unfortunately he was unable to show any preparation of the parts, as a post-mortem had not been permitted.

Dr Keiller remarked that Dr Simpson's cases and preparations were specially interesting because of their comparative rarity, an opinion which his experience of the usual course of such cases enabled him fully to corroborate. He had seldom witnessed carcinoma of the lower parts of the genital canal extend so high as to end in peritoneal rupture, which was an occasional though somewhat uncommon termination of uterine carcinoma.

III. *Dr Baird*, Perth, read a paper ON THE ETIOLOGY OF PUERPERAL FEVER, which will appear in a future No. of this Journal.

Professor Simpson thanked Dr Baird for coming so far, and bringing so valuable a contribution. He would have liked more detail in relation to the cases which occurred to Dr Baird's friend; the cases may not all have been due to the same cause. In his systematic course he always heads the lecture on this subject "The Puerperal Fevers." Sir J. Simpson taught the similarity or rather identity between puerperal fever and ordinary wound fever. We are all familiar with scarlet fever as a cause of puerperal fever, and a previous attack does not necessarily protect a puerperal any more than another patient from a new attack, though both in the puerperal and in other patients a second attack is not likely to be so dangerous. When it attacks a woman during early pregnancy it may cause abortion, and, if near labour, miscarriage; if after labour, it may run its course very rapidly and prove fatal before the rash or sore throat appear. In Dr Baird's own case there appeared to have been some morbid condition present from the time of labour; the poison was there, but was not great in quantity or severe in character. When the erysipelatous blush appeared the true features of the case came on. The puerperal condition causes women to suffer from a very slight introduction of poison.

Dr Keiller remarked that the Society could never hear too much about puerperal fever, and considered Dr Baird's excellent observations not only most welcome, but worthy of all commendation. The subject of the communication was full of interest and practical import; it had often been brought forward and discussed in this and kindred societies, and though viewed and reviewed in all its bearings, it must be confessed that no small measure of "Dun-

PERISCOPE OF OTOLOGY.

By J. J. KIRK DUNCANSON, M.D., C.M., F.R.C.P., and F.R.S., Edinburgh, Surgeon to the Ear Dispensary, 6 Cambridge Street, Lothian Road; Assist.-Surgeon, Eye Infirmary; Lecturer on Diseases of the Ear, Edinburgh School of Medicine.

LARYNGOLOGY.—At Dr Semon's second demonstration on the Use of the Laryngoscope, at the Throat Hospital, Golden Square, on Monday last, a very ingeniously devised physiological model was employed, which we have not previously seen used in this country. By it the separate action of each of the laryngeal muscles is shown on a large scale, and the consequent changes in the position of the arytenoid cartilages and the shape of the glottis. This "phantom" was constructed after the plans of Professor Oertel of Munich, and may with advantage be employed in teaching, not only for the purpose of demonstrating to a class the normal action of the larynx, but also the changes following pathological conditions, such as paralysis of the individual muscles.—*The British Medical Journal*, 16th November 1878, p. 742.

RUPTURE OF THE MEMBRANA TYMPANI FROM HANGING.—Taufal explains the well-known fact that the membrana tympani is often found ruptured in persons who have died from hanging—thus, from the compression of the neck the tongue is forced upwards against the soft palate, and this presses upon the Eustachian tube, closing it suddenly. This very rapid closure causes the air within the tympanum to be condensed sufficiently so as to cause rupture of the membrane.—*Prager Med. Wochenschrift*, No. 10, 1876, by J. Orne Green, M.D., in the *Boston Medical and Surgical Journal*, 1st November 1877.

I will venture to tabulate the causes of disease of the internal ear as follows:—

Proximate Causes—
- Injuries.
- Hemorrhages and effusions.
- Inflammation of the membranous labyrinth.
- Internal administration of quinine?
- Concussion of the nerve and its expansion.

Remote Causes—
- Syphilis.
- Cerebro-spinal meningitis.
- Fevers.
- The exanthemata.
- Mumps.
- Cerebral tumours.
- Aneurism of the basilar artery.

—*Diseases of the Internal Ear*, by D. B. St John Roosa, M.D., May 1878, p. 500.

OTALGIA.—True otalgia is a very rare affection. After some fourteen years of practice in aural disease, I have seen but two cases. In these cases the chief seat of the affection was the tympanic cavity. Otalgia may occur as a consequence of malarial poisoning, syphilis, or carious teeth. The chief point in the differential diagnosis is the absence of redness of the auditory canal or membrana tympani, and of impairment of the hearing power. Acute catarrh of the middle ear is sometimes mistakenly supposed to be otalgia. The ear, especially the tympanic cavity, is so richly supplied with nerves, that it is surprising that so few cases of otalgia have been observed. Bonnafont says that the disease rarely attacks both ears at once, but that it readily passes from one to the other, in consequence of the sympathy between the two sides of the fifth pair. There is apt, according to the same author, to be injection of the conjunctiva and lacrymation, in connexion with otalgia. The seat of otalgia may be, according to Bonnafont, in the auditory nerve, the chorda tympani, or the nerve-supply of the tympanic cavity. Bonnafont advises instillation into the ear of a concentrated decoction of poppy-heads, and cataplasms or blisters on the auricle and mastoid process.—*Traité théorique et pratique des maladies de l'oreille,* Paris, 1873, p. 557.

Grüber reports a case of typical otalgia cured by the use of iodide of potassium. Quinine was tried, but proved of no service. Prof. Gruber thinks it possible that there was an exudation pressing upon the nerve in this case. The symptoms were spasmodic contraction of the left side of the head, with pain in the ear occurring at irregular intervals; the longest intermissions were a few days. The hearing power was normal, and there were no pathological symptoms.—*Monatschrift für Ohrenheilkunde,* Jahrgang iii. No. 9.

The following case, which I saw but once, but which I heard recovered after treatment, is a fair representation of pure otalgia:—OTALGIA OF RIGHT SIDE, PROBABLY FROM SYPHILITIC EXUDATION ON THE SEVENTH NERVE.—A. X., æt. 27, 23d May 1873. This patient, who is a physician, says that he has suffered from more or less acute pain in the right ear and mastoid process for three months. Within the last ten days it has been more severe. The hearing is not impaired. On examination the hearing distance is found to be normal, but the tuning-fork is heard better on the right side. The membrana tympani and mastoid process present no abnormal appearances. The pain seems to follow the course of the seventh nerve. The patient had primary syphilis not long ago, and some secondary symptoms. He has never had any malarial affection. Under anti-syphilitic treatment this patient is said to have recovered.—*A Treatise on the Ear,* 4th edition, by D. B. St John Roosa, M.D., p. 546, published by William Wood & Co., New York, May 1878.

SYPHILITIC DISEASE OF THE LABYRINTH.—Comparatively few and imperfect observations of the histological changes of the labyrinth in syphilis have been published, and the following by

Moos is of special interest:—A man, aged forty-four, after seven years of constitutional syphilis, complained, with other symptoms of tertiary disease, of "frightful" subjective noises of all varieties in the ears, and occasional attacks of dizziness. The hearing was perfect, and inspection showed nothing. Three months after the perception of higher tones and the ticking of a watch was diminished, but conversation was well heard. In six months more the perception of the voice was seriously affected, and within a week the deafness was very extreme. Death from bronchitis followed eight days after. Dissection of one ear showed sclerosis of the petrous bone; the external and middle ears were normal throughout, and the only changes were in the labyrinth. The periosteum of the vestibule was thickened, and the base of the stapes immovable; the connective tissue of the vestibule hyperplastic and with small-cell infiltration; the periosteum of the lamina spiralis ossea and the different zones of the lamina spiralis membranacea, more especially the pillars and arches of Corti, likewise infiltrated; the acoustic nerve was normal.

These microscopic appearances correspond, Moos says, with Virchow's and Wagner's descriptions of the earlier stages of syphilitic new growths, and he considers that the pathological process in the ear started from the periosteal connective tissue of the vestibule, and extended by contiguity to the cochlea, of which the zones were somewhat unequally affected. The primary disease of the vestibule, he thinks, was most probably caused by the extension of a syphilitic inflammation of the connective substance of the bones and periosteum of the skull to the labyrinth, the first appearance of the ear-symptoms being simultaneous with the characteristic syphilitic headache. The earlier ear-symptoms, subjective noises, and vertigo, were caused by the periosteal irritation in the vestibule; the later rapidly increasing deafness, etc., by the anchylosis of the stapes and the infiltration of the cochlea, this latter especially being sufficient by its pressure to obliterate the functions of the nervous structures.

The earlier pathological changes, that is, the small-cell infiltration, Moos thinks, would lead one to expect in some cases a cure from appropriate medication, provided always that atrophy, caseous degeneration, or ulceration had not set in. The latter, however, the hyperplastic, would be beyond hope.

From the symptoms in this case, and from his previous experience, Moos agrees with Hinton (see *Supplement to Toynbee's Diseases of the Ear*) that an early and very rapid loss of hearing is an important symptom for the diagnosis of syphilitic ear disease. An early diminution of the perception through the bones he has also observed. Extreme deafness from syphilis he has never been able to affect by any therapeutic means, but the true "nervous" syphilitic cases in the very earliest stages he has found amenable to treatment.—Virchow's *Archiv*, vol. lxix. pages 2, 313, by J. Orne Green, M.D., *loc. cit.*

THE VISUAL PURPLE.—Two years since Professor Boll of Rome made a communication to the Academy of Science in Berlin, which dealt with the remarkable fact, that the bacillary layer of the retina was, during life, not colourless, but of a purple red hue. This colouring matter Professor Boll ascertained to be influenced by light. The statement, startling as it at first seemed, has been tested with the utmost rigour, and has been shown to be strictly accurate and probably fraught with physiological conclusions of the highest interest. The paper, known at first but to the comparatively few who are engaged in active scientific work, has become gradually more widely disseminated, and has given rise to a multitude of investigations. It has as yet, however, scarcely reached that large circle of busy practitioners who, whilst they still retain some of their early love for science, have yet but little time, and perhaps less inclination, to seek its gratification in the pages of a foreign record. Dr Foster has recently published a translation of a pamphlet on the subject of the visual purple of the retina, as the colouring matter is called, written by Dr Kühne, who early directed his careful attention to the whole subject. In this translation, as well as in a paper which appeared in the *Quarterly Journal of Microscopical Science*, will be found a full account of the facts, which we may briefly summarize. Nearly forty years ago Krohn, and afterwards Hensen, whilst studying the cephalopoda, perceived that the isolated rods possessed a distinct colour. Little or no importance, however, seems to have been attached to this discovery, even when Heinrich Müller saw the same appearance in the rods from the retina of a frog. It was supposed that the colour seen had some reference to the length of the rods, and that it depended rather upon the phenomena of interference than upon actual pigment. The assertion of Boll, however, that the colour of the retina was influenced by light, caused a new importance to be at once attached to the red colour which had been seen in the rods. The visual colouring matter can readily be seen either in the eye of a human subject or in that of a frog; it is only necessary to exclude light for a short period before death, and in the case of a frog to examine the retina immediately afterwards. In the case of the human eye, a transverse section of the globe should be made immediately after extirpation, preferably in the case of an eye where there has been complete opacity of the cornea. The colour of a retina thus looked at is of a purplish red; if this be watched carefully, it will be seen slowly to pass into a tint called by Kühne *chamois*, a mixture of the violet and yellow colours of the spectrum; and from this again to become colourless. The bleaching is more rapid if the retina be carefully excised, since the black pigment upon which the layer of rods and cones rests in the eye serves, to a certain extent, to renew the purple colour. The bleaching, which is comparatively rapid in direct sunlight, takes place but slowly in yellow light, lasting as long as forty-eight hours; whereas in daylight the colour vanishes in the excised retina in half a minute. Careful microscopic examination has shown that the visual purple is entirely absent from the cones, and is present solely in the rods of the retina.

The influence of the visual purple upon sight is not as yet clearly understood. It appears to be absent from the retinæ of pigeons, fowls, bats, and snakes; it is, therefore, not essential to the power of vision. It has been argued, however, that visual purple is deficient in proportion as the retina is provided with other and more stable means of absorbing coloured light, as, for instance, in the coloured globules found in the retinal cones of birds; whilst in such cases as those of bats, it may be supposed that the sense of touch to a great extent supplants the sense of sight. Professor Kühne has obtained, by careful manipulation, a perfectly clear solution of visual purple by dissolving it out of the retinal rods with purified bile, and then by digesting it with trypsin—one of the ferments of the pancreas—to render soluble some of the organic impurities. The solution thus obtained was found to possess all the physical properties of the original visual purple, except that it was of a deep orange red, which, like the purple, rapidly became converted into a colourless gray when exposed to direct sunlight; and it is thus seen how exceedingly stable the colouring matter is, so long as it is not exposed to the influence of light. It is found that during life, in the frog, long-continued exposure to direct sunlight is required to completely bleach the retina; and it was in investigating this subject, that Professor Kühne was led to one of the most interesting of the results which have yet been obtained. By previously keeping an animal for some time in the dark, it was found that, on bringing it into a bright light, and making it look steadily for a varying time at some brightly illuminated object, such as a window or a candle flame, then rapidy extirpating the eye and examining it in the dark, a white *silhouette* of the object was found upon a purple ground of the retina. The image thus obtained was very distinct, sharply defined, and of course smaller than the object; it was difficult and uncertain to get a good result, and great manual dexterity, as well as considerable practice, was required. Professor Kühne has been led to use a solution of alum for the purpose of toughening the retina before he proceeded to remove it. It is this solution which, quite erroneously, has been described in certain popular accounts of the retinal pictures or optograms as a developer, such as is commonly used by photographers.

It is not easy to predict what will be the fate of visual purple, for our knowledge of it is as yet but very meagre; still it is added to every month, and from the number and importance of the memoirs which are being constantly published in relation to the subject, we may soon hope to find out its true importance. The physiology of the visual purple is at present to the eye what the physiology of the organ of Corti is to the ear—a fruitful source of argument and conjecture, appearing in what seems an arbitrary way, and bearing an ill-defined, but at the same time important, relation to the organ of which it forms a part. The study of the visual purple, however, is more easy than the study of the organ of Corti, inasmuch as it is not necessary, in investigating the former, to make use of any very complicated operative measures, such as are necessary for the accurate study of the latter.—*British Medical Journal*, 23d Nov. 1878, p. 774.

Mr Edison, the American electrician, states that he has set two of his most skilful assistants at work testing his ideas in regard to an apparatus for the deaf. The many letters he has received on the subject of such an apparatus convince him that the demand for it will be enormous. He feels sure he can produce a practical one within six months.—*A Magazine intended chiefly for the Deaf and Dumb*, Nov. 1878, p. 175.

THE BOSTON SOCIETY FOR MEDICAL OBSERVATION

Part Fifth.

MEDICAL NEWS.

ABERDEEN UNIVERSITY.—APPOINTMENTS TO VACANT CHAIRS.—The Crown, in whose hands the appointments lay, have now filled up the vacancies caused by the resignations of Professor Harvey and Professor Nicol. To the Chair of Materia Medica, A. D. Davidson, M.A., M.D., who was for some years assistant to Professor Harvey, and who has been discharging the duties of the office during the present session, has been appointed; and the Chair of Natural History has been filled by the appointment of Dr J. Cossar-Ewart. We understand that these appointments will give undoubted satisfaction to the profession. Dr Cossar-Ewart, as Demonstrator of Anatomy in the University of Edinburgh, Curator of the University College Museum, London, and Practical Demonstrator of Zoology there, has had unrivalled opportunities for studying Biology. He has further published valuable papers on microscopical subjects, and especially on the life-history of Bacteria. His researches, in particular, "On the Life, History, and Relations of several of the Lower Organisms," were of such merit as to obtain for him one of the Thesis Gold Medals of the University of Edinburgh. An original observer of great merit, a skilled anatomist, with great manipulative power in dissection, an accomplished microscopist and fluent lecturer, Dr Ewart's appointment will undoubtedly prove a great success. His removal from Edinburgh will be greatly regretted, as he had already shown himself master of his subject, and attracted many students to his classes.

WE are able to announce that in January 1879 will appear the first number of a new medical journal to be published at Milan, entitled *The Journal of the Italian Society of Hygiene.*

Royal Medical Society.—The following gentlemen have been elected office-bearers for the current session:—*Presidents,* C. W. Cathcart, M.A., M.B., C.M., L.R.C.S.; C. Begg, M.B., C.M.; G. Sims Woodhead, M.B., C.M.; Albert Wilson, M.B., C.M. *Hon. Secs.,* E. Hyla Greves, Ed. Fowler Scougal, M.A., L.R.C.S. *Library Curator,* Fred. Cox. *Museum Curator,* William Fligg.

Death of Mr Thomas Thomson, F.R.C.S. Ed.—This well-known and highly-respected practitioner died at his house in Inveresk on 14th December after a short illness. Though he had of late been looking weary and over-worked, and had intended to take a holiday, he was in harness till within a very few days of the end. He was respected and loved by all who knew him, and his place at Inveresk will not be easily filled.

PUBLICATIONS RECEIVED.

D. Hayes Agnew, M.D., LL.D.,—Principles and Practice of Surgery. Vol. I. J. B. Lippencott & Co., Philadelphia, 1878.

Wm. H. Barlow, M.D., — Regressive Paralysis. J. E. Cornish, Manchester, 1878.

Dr Gustav Behrend, — Die Hautkrankheiten. Friedrich Wreden. Braunschweig, 1879.

James Henry Bennett, M.D.,—Treatment of Pulmonary Consumption. J. & A. Churchill, London, 1878.

Thomas Bryant, F.R.C.S., — Manual for the Practice of Surgery. 2 vols. J. & A. Churchill, London, 1879.

William Carter, — Clinical Reports on Renal and Urinary Diseases. J. & A. Churchill, London, 1878.

Collected Works of Dr P. M. Latham. Vol. II. New Sydenham Society, 1878.

T. B. Curling, F.R.S.,—Diseases of the Testis. J. & A. Churchill, London, 1878.

Horace Dobell, M.D., — On Loss of Weight, Blood-spitting, and Lung Disease. J. & A. Churchill, London, 1878.

David Ferrier, M.D., F.R.S.,—Localization of Cerebral Disease. Smith, Elder, & Co., London, 1878.

Prof. Carl Gegenbaur,—Elements of Comparative Anatomy. Macmillan & Co., London, 1878.

Dr B. Lœwenberg, — Les Tumeurs Adénoïdes du Pharynx Nasal. V. Adrien Delahaye et Cie, Paris, 1879.

Fessenden N. Otis, M.D.,—Stricture of the Male Urethra. Smith, Elder, & Co., London, 1878.

F. W. Pavy, M.D., F.R.S., — Croonian Lectures on certain Points connected with Diabetes. J. & A. Churchill, London, 1878.

B. W. Richardson, M.D., etc., — Total Abstinence. Macmillan & Co., London, 1878.

——— Dialogues on Drink. Scottish Temperance League, Glasgow, 1878.

Sydney Ringer, M.D.,—A Handbook of Therapeutics. H. K. Lewis, London, 1879.

Hermann Schwartze, M.D.,—Pathological Anatomy of the Ear. Houghton, Osgood, & Co., Boston, 1878.

Alfred Smee, F.R.S.,—The House Surgeon. The Accident Insurance Co. (Limited), London.

Eustace Smith, M.D.,—Wasting Diseases of Infants and Children. J. & A. Churchill, London, 1878.

T. Pridgin Teale, M.A., — Dangers to Health. J. & A. Churchill, London, 1878.

Rev. J. H. Timins, M.A.,—Artificial Disinfection. J. & A. Churchill, London, 1878.

The Science of Life. J. Burns, London, 1878.

Transactions of the Pathological Society of London. Vol. XXIX. London, 1878.

Transactions of the Pathological Society of Philadelphia, Vol. VII.

Thomas T. Whipham, M.B., — Specialism in the Medical Profession. Longmans, Green, & Co., London, 1878.

Ziemssen's Cyclopædia of the Practice of Medicine. Vol. VIII. Sampson Low & Co., London, 1878.

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION

Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Remarks on the use of Solution of Perchloride of Iron as a Styptic and Caustic in Gynecological Practice.* By J. MATTHEWS DUNCAN, M.D.

THE use of perchloride of iron, as a styptic or uterine irritant, in cases of post-partum hæmorrhage, has now, for several years, been the subject of extensive observation and criticism. Cases, in which injurious and even fatal results have followed its use, have been recorded by Heywood Smith,[1] Snow Beck, Bantock, and others. In some of these cases, as in that of Smith, post-mortem examination has confirmed the opinion that death resulted from the mode of treatment. Notwithstanding these facts and much other adverse criticism, the practice is ardently supported by many obstetricians of extensive knowledge and great experience. On this subject I have published remarks[2] which indicate a strong feeling of diffidence, on my part, in this remedy.

The alleged therapeutical advantages of the practice are on the same footing of ill or of well-grounded assurance of their reality as other therapeutical allegations. Some dangers of the practice—the bringing on of uterine inflammation or of phlegmasia dolens—are admitted; but attempts are made, more or less directly, to deny the occurrence of cases of death attributable immediately to the injection of the solution of perchloride of iron. On this last point I have nothing to say that could add to the convincing force of the bare records of the cases. The occasional occurrence of death as a result of the practice, while it makes resort to it a matter for utmost care and consideration, does not, however, completely and at once, forbid its use. Some practitioners may still feel justified in applying it as a last resort: in the meantime, at least, I do not, preferring to rely on preventive measures and the use of ergot, pressure, kneading, cold, and heat. The danger of artificial anæsthesia does not prevent my resorting to it, but the danger of iron injection is, I feel sure, much greater; while there are, to replace it, more than one alternative remedy of equally well if not better founded reputation.

---

[1] *Obstetrical Transactions*, London, vol. xv. p. 65, etc.

[2] *Obstetrical Transactions*, Edinburgh, vol. iv. p. 23.

Regarding the condition of the bleeding surface in a recently delivered woman, with its numerous large open sinuses, one would naturally dread the passage of the iron solution into the vessels, and the post-mortem investigations in fatal cases prove that it does so pass. They illustrate the passage also of other noxious septic or aseptic matters, whose baneful progress along these vessels, and into the general circulation, it might be difficult to demonstrate otherwise so indisputably. The case which I am about to narrate shows that, for this passage in the case of solution of perchloride of iron, it is not necessary to have large open sinuses, such as are found after delivery or in wounds, for in that case there were only such very small open vessels as the eye cannot discover, but which may be regarded as existing in a cancerous sore which bleeds, though only slightly.

An active expanding power in the uterus, "sucking up,"[1] has been imagined, and may be applied to explain the entrance of uterine contents into the sinuses; but I know no evidence of the existence of such a power. That the uterus, when not in contraction, may be expanded, is well known, and on this subject some inquiries,[2] as yet too fragmentary, have been made. But such expansion must be active in order to produce the desiderated force, and I know nothing that induces belief in such active expansion. In the retentive power of the abdomen, or in the condition of negative pressure, as it is called, in that cavity, there is a sufficient explanation; and of this adspiratory abdominal force there is abundant proof.[3]

It is a matter of course that, while bleeding is going on from the sinuses, there can be no sucking into them; but the one action may succeed the other, or repeatedly alternate with it.

Like most, if not all, gynecologists, I have for a long series of years been in the habit of using locally strong and weak solutions of perchloride of iron, generally the former, in various ways, with various objects in view; and, except occasionally much pain and a very rare adhesive perimetritis or phlegmasia dolens, I have seen, amid advantageous results, nothing to counterbalance the good, till the case, to be now related, occurred. As a styptic in all extreme forms of uterine bleeding, and in connexion with early abortion and uterine diseases and operations, and in vaginal and vulvar diseases and operations, as a caustic in endometritis, I have applied it without stint. It is recommended, in most works on gynecology, to be used in such ways, and in others, as by injection into cancerous tissues. I have always injected it gently, that is, under slight pressure, and have used little at a time, not more than a drachm. If more was used, I have paid attention to the previous dilatation of the cervix.

---

[1] See Barnes, *Obstetrical Transactions*, London, vol. xi. p. 225.

[2] See *British Medical Journal*, October 27, 1877, p. 584.

[3] See *Researches in Obstetrics*, by Matthews Duncan, p. 409; and the Papers of Schatz in the *Archiv für Gynækologie*.

Von Haselberg, Barnes, and Kern[1] have related cases of passage of the iron solution through a Fallopian tube, but of this I have seen no example. In Von Haselberg's case the occurrence was explained by the open condition of the tube.[2] Klemm, whose work, *Ueber die Gefahren der Uterin-injection*, is referred to by Schroeder, but which I have not seen, is the only author whom I know that refers to the danger of injected fluids passing into uterine sinuses, and then into veins in the broad ligament. His data seem to have been the result of experiments, and are no doubt of great value.

The following case demonstrates the passage of the iron solution through the uterine sinuses into the veins of the broad ligament and the mode in which death was produced. In consequence of it I intend now to make use of tincture of iodine, hoping for results like those of the iron solution without its attendant dangers.

Before giving details that are derived from the records of St Bartholomew's Hospital, as made by Messrs Griffith and Clark, I shall make a more general statement of the case.

The woman was suffering from ulceration of cavity of the body of the uterus, which was supposed to be malignant. She had much bloody and watery discharges from the vagina, and was very anxious that some attempt should be made to stop it and cure her. The uterus was enlarged and retroflected, the cervix large and patulous. Through the latter, after dilatation, the finger could be passed into the cavity of the body of the uterus. Nitric acid was first used, and subsequently the iron solution. It was the second injection of the solution of perchloride of iron that was followed by disaster. Till this, benefit of a temporary kind was gained from the injection.

After the second injection, which was made with the greatest ease and gentleness, she had pain in the hypogastrium of great severity, with weakness and symptoms of extreme prostration, yet she was able to walk from the operating theatre to her bed in the large ward. Now came on the most alarming appearance of impending death, which I said to the bystanders could be accounted for only by embolism, the abdominal pain and every indication of peritonitis being absent. But I could not account for the embolism. I had not then any knowledge of Klemm's experiments. Under treatment she partially rallied. Her death was sudden, and quite unexpected at the time by the very intelligent sister, who happened at that minute to be standing by, engaged in conversation with her. Death occurred nearly two days after the injection.

---

[1] See Schroeder, *Handbuch der Krankheiten der weiblichen Geschlechtsorgane.* 2te Aufl. s. 129.

[2] On this subject see *Edinburgh Medical Journal*, June 1856, p. 1057.

Mrs ——, aged 59 years, complains of weakness and of discharge from the vagina, which has continued for eight months, and is sometimes bloody, sometimes watery. Married 30 years ago; she has had six children, the last 17 years ago, and one miscarriage 23 years ago. Catamenia began at 16, and were regular, not painful, nor profuse. [It is not stated when they ceased.] *September* 15.—Uterine cervix dilated with tangle tent. Temperature in evening 97°·6. *Sept.* 16.—Uterine cavity digitally examined, and found to be lined with irregularly surfaced, spongy, and somewhat shreddy membrane. It was swabbed with strong nitric acid. Temperature in evening 100°·4. *October* 3.—Still complains of pain. The discharge is less. Sleeps well. Uterine cavity again swabbed with nitric acid. Temperature in evening 102°·3. *Oct.* 4.—Has passed a good night. Has no pain. Discharge continues. *Oct.* 5.—Temperature 99°·2. *Oct.* 6.—About ʒij. of liq. ferri perchl. fort. injected through hollow probe into uterine cavity. Some pain at time of injection. Temperature in evening 103°·1. *Oct.* 7.—Has passed a good night. No pain. Discharge lessened. Temperature 100°. *Oct.* 8.—At 2.30 P.M. ʒij. of liq. ferri. perchlor. fort. again injected. The vagina was afterwards several times syringed out with water. Patient complained of some pain at the time of the operation, but not of more than on the last occasion. When, however, she had got down from the table, and had walked as far as the bath-room, she complained of a good deal of pain, and had to be assisted back to bed. When in bed she complained much of shortness of breath. She was seen about a quarter of an hour after the conclusion of the operation, and found pale, with livid lips, white and cold extremities, and rapid and feeble pulse. She felt as if dying, and complained of inability to breathe fully or properly. Ammonia was applied to the nose, hot-water bottles to the feet, mustard to the præcordial region; small quantities of brandy, and afterwards of ether, were given by mouth. The breathing was sighing and rapid, but she said that now she felt it much better. In about an hour she evidently improved; her extremities grew warmer, and her pulse stronger. Soon after she had some brandy again, and then vomited freely. This seemed to give her some relief, though the effort made her breathing for the time more rapid and her pulse intermittent. She took ice with avidity, complaining of great thirst. Had some shivering, and tremors of the lower extremities. 5 P.M.—Pulse 124; resp. 40; temp. 98°. 7 P.M.—Has been sick three times. Complains of great thirst; takes ice freely. Very little pain. Warmth returning to extremities. Pulse regular; better volume. Still very pale and livid. Pulse 120; resp. 40; temp. 100°. 9 P.M.—Temp. 100°·6. 10 P.M.—No more sickness; tongue dry; still very thirsty; has taken iced milk. Pulse still feeble, 104; resp. 38; temp. 101°·4. Is perfectly conscious, as, indeed, she has been throughout.

Oct. 9.—Dozed at intervals during the night and early morning. Has been sick three times. Is now (10.30 A.M.) of better colour, and her pulse is of better volume. Heart sounds clear. Air enters anterior parts of lungs freely; it was not thought advisable to raise her to listen to the posterior. Complained of great pain in the abdomen for a short time early this morning; there is none now. Has taken liquids. Pulse 104; resp. 40; temp. 102°·1. 10 P.M.—Was ordered this afternoon Ol. terebinth ʒj., ol. ricini ℥ss., tr. opii ♏xv. The stomach has retained this, but the bowels have not acted. Has taken some beef tea. Is in no pain, and feels fairly comfortable; but she frequently expresses herself as being about to die soon. Pulse 100; temp. 102°·4.

Oct. 10.—Has passed a fair night. Bowels acted at 7 this morning, and again at 8.40. Soon after this she became suddenly collapsed, and died in about five minutes. A hot-water tin was placed to her feet, and brandy and ether given by the mouth, but without avail. She was not sitting up at the time, nor did she indeed do so at any time subsequently to the operation. She was conscious up to the moment of death.

Oct. 11.—Post-mortem examination twenty-seven hours after death. Body fairly nourished.

Lungs.—Left pleura adherent (old) above and anteriorly. The pulmonary arteries and their branches were slit up *in situ* with scissors. At the bifurcation of one of the terminal branches of the left pulmonary artery, supplying the upper lobe of the lung, and in size equal to a crowquill, was found impacted a firm, adherent, greyish white clot, homogeneous throughout, and extending for half an inch into the branches into which the artery divided; continuous with the embolus, the terminal branches of the artery were stuffed with black clot. The area of lung supplied by the occluded artery was rather dark, containing but little blood or air, but not notably different from the healthy portions of lung. Similar embolic clots were found in the lower lobe of the same lung, and in the upper lobe of the right.

Heart.—Substance flabby, pale, soft, and easily torn. Aortic valves atheromatous; the others natural.

Uterus, etc.—The uterus was enlarged to about twice its natural size. The anterior surface when exposed shows a black spot of the size of a five-shilling piece; it has the appearance of a patch of commencing sphacelus. This blackness is continued irregularly through the substance of the walls on to the internal surface, which exhibits spots of patchy blackness on both the anterior and posterior walls. The walls are entire, of normal thickness and consistence. The cavity, enlarged, contained about ʒij. of fœtid, blackish grey puriform fluid. The posterior surface of the uterus and Douglas's space was injected and covered with recent lymph.

Blackness, similar to the above-mentioned, was also found in a patch the size of a shilling in the left broad ligament, corresponding to the venous plexus in it; when this was cut into the vessels were found filled with firm black clots. These vessels containing clots could be traced into the uterine walls; the clots ended, externally, on a level with the ovary. The walls of the uterine vessels were specially stained black. The right broad ligament was natural. The left ovary was redder than the right. No thromboses in iliac veins or vena cava. Lumbar glands hard and enlarged. Brain perfectly normal. Liver, kidneys, and spleen were not examined.

In regard to the case just narrated, I have put to myself two questions which I cannot answer: Why was it the second and not the first injection that was injurious? Why was a special limited area of uterine tissue selected for the almost exclusive action of the iron? Was it the vaginal injection of water, after the uterine iron injection on the second occasion, that made the iron pass deeply?

ARTICLE II.—*Case in which a Strangulated Hernia, reduced "en bloc," was relieved by a Median Abdominal Incision.* By Professor ANNANDALE.

ON the 3d of July last I was asked by my friend Dr Menzies to meet him in consultation on the case of Mr H., æt. 65.

Mr H. had suffered for ten years from a reducible inguinal hernia on the right side, which, until four days previous to my visit, had always been readily reduced, and had given him little or no trouble. The hernia was an oblique inguinal one, and passed for a short distance into the scrotum. When first seen by Dr Menzies strangulation had taken place, and the employment of the taxis having failed to reduce the hernia, cold was applied for some hours, and the taxis again used, with the result that the tumour was pushed back into the abdominal cavity. Dr Menzies felt no peculiarity in returning the hernia, but it entirely disappeared, as it had usually done when in a reducible state.

The symptoms of strangulation did not, however, subside, but became gradually worse, and in consequence I was asked to visit the patient three days after the reduction of the hernia. On careful examination I could not detect any swelling in the region of the former hernia, nor could I feel any tumour or impulse when the patient coughed. There was no swelling in any of the other hernial regions as far as I could ascertain. The symptoms of intestinal obstruction were complete, and the patient was weak and suffering from the results of the prolonged strangulation of the gut.

Considering the case to be one of the reduction of a strangulated hernia "en bloc," I advised an immediate operation, and instead of cutting down upon the inguinal canal, as has usually been done in such cases, I made an incision three inches long in the middle line of the abdomen, at a point about midway between the pubis and umbilicus, and opened into the general peritoneal cavity. A portion of small intestine dilated with gas immediately protruded, and on passing my finger along this in a direction towards the right iliac fossa, I felt that the gut was here caught and fixed in some way. This fixed portion was easily drawn towards the wound, and it was then seen to be a small knuckle of gut strangulated by the neck of a hernial sac. This sac was entire, and its neck lay in the general peritoneal cavity, and had the appearance of being somewhat everted towards this cavity. Above the obstructed gut the intestine was dilated; below it it was contracted and flaccid. Slight and careful traction on the intestine from within, and at the same time gentle pressure with one finger on the neck of the sac in the opposite direction, at once relieved the strangulated portion, and drew it out from the sac. The wound was then stitched up, and antiseptic dressing applied, the operation having been performed under the spray with the usual precautions. When the patient recovered from the influence of the chloroform he was restless, and did not appear to have obtained much relief. His friends—contrary to orders—allowed him to rise out of bed with their assistance, and to sit and strain on the night-stool. This still further weakened him, and he sank quickly and died about ten hours after the operation, having had no passage from the bowels.

Dr Menzies, his son Dr David Menzies, and my assistant Dr Cotterill, ably and kindly aided me in attendance on this anxious case.

A post-mortem examination showed slight general peritonitis, a knuckle of congested intestine lying quite free in the peritoneal cavity, and a small empty sac, turned partially inside out, also lying in this cavity. There were no signs of any bruising or laceration of the tissues in the inguinal region corresponding to the site of the hernia, but the reduced sac appeared to have been moveable and unattached to the tissues lining the passage, along which it had come as a reducible hernia.

Remarks.—I report this case, first because it is an illustrative example of the reduction, "en bloc" or "en masse," of a hernia in a strangulated condition, and because it is the first instance, as far as I am aware, in which this condition has been seen and examined from the inside of the abdominal cavity during the life of the patient.

The reduction of a hernia in this way, with its sac entire, as in the case related, is acknowledged by surgeons to be a rare occurrence, and this accident has been most frequently met with in connexion with femoral hernia. This—which may be termed the true "reduction en bloc"—may be simulated by one of several conditions, as has been ably described by Mr Birkett in his paper in the *Medico-Chirurgical Transactions*, vol. xlii. These conditions are—

(1.) The tearing off of the neck of the sac, which allows the contents of the hernia to be pushed back, strangulated by the neck.

(2.) The rupture of the sac itself, its contents being forced into the abdominal walls external to the peritoneum.

(3.) The reduction of the hernia into a pouch or dilatation formed from the original sac.

In addition to these the rupture of the intestine contained in the sac may cause the disappearance of the greater part of a hernia.

My case, therefore, is interesting as an example of the true "reduction en bloc" occurring in the case of an inguino-scrotal hernia—a condition which Mr Birkett considers very unlikely to occur.

My second reason for recording this case is to direct attention to the new operative procedure practised in connexion with it. The recognised rule for the treatment of a strangulated hernia reduced "en bloc" is to freely expose the hernial region implicated, to draw down and open the sac, and divide the contracting agent; but difficulty has not unfrequently been met with in doing this, owing to the hernia having been pushed beyond the canal or opening through which it has passed from the abdominal cavity. When a distinct tumour can be felt, its exposure by incision is no doubt the best operation which can be performed, but if no tumour can be felt, then I think that a median abdominal incision, such as was practised in my case, is to be preferred. The ease with which a strangulated portion of gut is relieved when gentle traction is made upon it from within is remarkable, and a median incision has the additional advantage, that by means of it any complication, such as a twisting or adhesion of the intestines, can be recognised and relieved much more readily than through an opening made in the inguinal or femoral regions.

In the *Edinburgh Medical Journal* for September 1873, I advocated the employment of a median incision in certain cases of strangulated hernia, and recorded a case of strangulated umbilical hernia in which I had practised this operation. My experience of the case related has confirmed my belief that this method of operating is likely to be valuable in particular cases of strangulated hernia, and that, therefore, the propriety of its performance should be considered in deciding the question of interference in cases where difficulties are present in connexion with the usual operation of directly exposing the hernial sac.

Median incisions into the abdominal cavity are now constantly practised with success, and I do not think that with proper precautions such an incision should be attended with more risk than one which opens into the abdomen from the ordinary hernial regions.

I attribute the death of my patient to the shock and irritation resulting from a prolonged obstruction of the gut, and had he been in a more satisfactory condition, and had the operation been performed at an earlier period, I consider there is good reason to think that he would have recovered, as the strangulation was relieved without the slightest injury to the gut, sac, or surrounding textures.

ARTICLE III.—*The Premurmuric Stage of Aortic Valvulitis.* By J. MILNER FOTHERGILL, M.D., Edinburgh, M.R.C.P.L.

(*Read before the Harveian Society of London, November* 7, 1878.)

THE importance of the early recognition of changes in the valves of the heart will be admitted by all. The question, then, arises, "Are we in all cases compelled to wait for the presence of a murmur before we feel certain that the aortic valves are the seat of disease?" To this, I believe, a negative answer may be returned. The cause of the second sound of the heart is so simple, that the difficulties are not great in comprehending how modifications of it may be of value, long before a murmur is developed. Tension of the semilunar valves is the cause of the second sound. Changes of blood pressure in the arteries, as well as structural changes in the cusps, will cause such modifications in the character of the second sound as shall possess a distinct diagnostic value. It is the consideration of these modifications, along with their associated conditions, that I ask for to-night. I do not expect full agreement with my views—and if I did, I certainly should not get it. Still, the subject is one which is worthy of investigation, in order to ascertain how far different observers agree, and on what points they differ. Through such discussion alone can any certitude of knowledge be obtained; and the Harveian Society is a most appropriate place for the consideration of questions relating to the circulation. We may, then, profitably discuss the question, "Are there other indications than a murmur, of commencing aortic valvulitis? are we always compelled to wait for the more remote and brutal answer of a murmur?"

In my opinion this is not always necessary; there are associations and modifications of sounds which teach us that the aortic valves are entering upon a pathological process before the morbid changes are sufficiently pronounced to develop a murmur. If so, it is well that they should be generally known and recognised, not only for such purposes as insurance, but in the interests of the patient. Further, too, our measures of treatment will be influenced by our knowledge of the causation and progress of aortic valvulitis. We know and recognise the fact, that an inflammatory storm of rheumatic endocarditis may light up a growth of connective tissue corpuscles in the mitral vela; which growth may progress, and too frequently does, after the storm which started it has passed away. Every reader of Latham's instructive work knows that such valvulitis may be static or may be progressive—the prognosis being widely different in such case. Where the valves are but thickened, or their edges merely roughened by the interstitial growth, a mitral murmur may tell of the by-past storm for many years after it has occurred; and yet the patient may only be conscious of the injury done, on effort. The muscular compensation for such limited injury is easily made and maintained for long; the individual being but little the worse. We are not yet so certain that aortic valvulitis may be arrested, and the condition be rendered stationary; but it is probable that such may be the case in certain fortunate individuals. I know a faint aortic systolic murmur first heard by me in 1870, which is no louder at the present time than then, the gentleman presenting the appearance of perfect health; and, since 1870, has been passed as a first-class life in one of the most selective of our insurance companies. He at one time went in strongly for athletics of all kinds, but on marrying changed his mode of life entirely. To this is due, in my opinion, the static conditions of his aortic mischief.

A brief consideration of the associations of aortic valvulitis will help to elucidate the subject It may be occasioned by rheumatic endocarditis; but this form does not concern us here. There the murmur is soon audible. The associations of aortic valvulitis ordinarily are severe toil, especially certain forms of it, and the high blood pressure of lithiasis—of gout or chronic Bright's disease.

Aortic valvulitis is very common among men who wield a heavy hammer in foundries and ironworks, and as such is rife in Leeds, where my attention was first drawn to it by Dr Clifford Allbutt. Not only were there many such cases amidst the numerous patients of the Leeds Public Dispensary, affording plenteous opportunities for studying the disease, but I went to several foundries and examined these "strikers" when at work. After the severe exertion of striking during each "heat," *i.e.*, during the time the iron was sufficiently hot to be forged on the anvil, the circulation was much excited, and the heart beat violently. The "striker," in order to deliver deliberate and powerful blows, has to attitudinize himself—has to posture, in fact—and this entails his setting almost every muscle in the body into action when the blow is given; just as an oarsman has to fix his muscles when he makes a powerful stroke of the oar. In each case the trunk and legs are fixed, in order that the arms may be used more efficiently. Wardrop, many years ago, pointed out that many muscles cross arteries so as to compress the vessel somewhat when contracted; this he called "the musculo-cardiac function" of the circulation. When, then, these general efforts are frequently and persistently made, certain changes in the circulation are instituted. There is some hypertrophy of the left ventricle, with accentuation of the aortic second sound. Not uncommonly there is some palpitation, and the heart's action is readily disturbed; there is excited action on slight effort. In such cases the occupation is abandoned, and some lighter form of labour adopted, and then the heart quiets down and no further stage is reached. I have examined several ex-strikers without finding any remaining evidences of the strain to which their heart had once been subjected. But in the majority of cases hypertrophy is developed, and a powerful ventricle distends the elastic arteries excessively, and the rebound is in proportion to the distension; the aortic valves are driven violently together, or in other words, the tension on them is excessive, and valvulitis is the result. This slow parenchymatous inflammation in the valves goes on along with hyperplasia of the muscular walls, and is a nutritive change, which may in the first place strengthen the valve cusps; but certainly the contractile tendency of pathological connective tissue mutilates the cusps, and renders them in time incompetent to close the ostium in the aortic recoil.

During this time the sounds are modified; the high tension to which the valve cusps are subjected produces accentuation of the aortic second sound. We are all agreed about that. But the question arises, Is there, in some cases at least, an intermediate stage betwixt the accentuation of the aortic second sound and the development of a murmur? This intermediate stage producing a muffling of the aortic second sound, as the thickened edges are brought together.

Walshe says: "The second sound at the base is rendered dull, and comparatively clanging by fibro-fatty thickening, without insufficiency of the sigmoid valves. Like the first, the second sound may be murmurish, temporarily or permanently. Very trifling insufficiency will probably thus modify its quality." Fuller writes: "The second sound becomes dull, and has its pitch lowered by want of contractility in the arteries, and also by thickening and impaired elasticity of the semilunar valves. In certain cases in which the elasticity of the arteries is great, and thickening or rigidity affects the free edges of the valves, the sound assumes a clanging character." Da Costa says, in his admirable work on Medical Diagnosis, too little known in this country: "The second sound is not so liable to be changed as the first. It is rendered somewhat duller by a thickening of the semilunar valves, and, on the other hand, more ringing when they are thin." While Hope writes, "There are exceptions to the production of systolic murmur by disease of the aortic valves. Thus I have frequently seen them slightly thickened by fibrous or steatomatous degeneration without producing murmur; though in other cases, a degree of disease apparently not greater has been productive of the phenomenon; whence we must conclude that a certain accidental configuration of the diseased parts, in addition to the amount of disease, is requisite for the development of a murmur."

From these different authorities, it will be seen not only that the aortic second sound may be modified by disease without the condition capable of producing a murmur being reached, but even that considerable disease may exist without a murmur being developed. This gives weight to the indications of aortic valvulitis other than a murmur. An advanced condition is reached when the ominous sound of a murmur is heard; it is doubly important, then, that we should be familiar with the other and earlier evidences of disease of the aortic valves. As to the absence of murmur in aortic regurgitation, the following extracts from a case published in the *British Medical Journal*, 30th March 1872, by W. T. Gairdner, of Glasgow, is very instructive:—"A regurgitant murmur was present, and disappeared—a very significant fact diagnostically. *January* 20.—Double aortic murmur. On January 30 it was found that the presumed murmur of aortic regurgitation had entirely disappeared, leaving only the apex prolongation of the first sound as formerly described. P. M., 10th of February. The aortic valves presented very well-marked and even extensive disease. There was a prominent rough mass of vegetation on the left fold of the sigmoid valves, while the posterior fold was perforated." It would seem, then, as Hope stated, some peculiar configuration is necessary, as well as disease, to cause a murmur. Further, this case shows that even extreme disease may not give out a regurgitant aortic murmur. The more important, then, is it to appraise carefully the other indications of aortic change!

I think we will all agree that when hypertrophy of the left ventricle is found along with accentuation of the aortic second sound, the suspicion of aortic valvulitis coming on at no distant date must be entertained. Probably the presence of constitutional syphilis renders the danger still more imminent. Whether the fact that early changes in the free edges of the aortic cusps modify the character of the aortic second sound can be demonstrated or not, is yet in dispute. The statements of the leading authorities given above render it very probable that an intermediate stage, characterized by muffling of the second sound, is in some cases developed betwixt the stage of accentuation and the unmistakable and significant production of a murmur.

I am inclined to think such an intermediate stage is furnished by the patient present for examination. He is a young man who came under my care eighteen months ago at the West London Hospital. He was a striker, and he had excited action of his heart and some hypertrophy. At that time his aortic second sound was clearly and loudly accentuated.. I do not think any one will say that such is now the case. I insisted upon his changing his work, which he has done. It may be possible to raise the hypothesis that, as his heart is quieting down, the accentuation is declining. I am inclined to think otherwise, and once or twice recently have thought I could detect a fugitive murmur.

However, we have had him here, and he has been examined by several gentlemen. A watch will be kept upon him, and if a murmur should develop itself he will be brought here again for further examination. If a murmur should be manifested after a time, the intermediate stage will almost be proved.

Such, then, are the associations of aortic valvulitis in comparatively young persons. There are—(1) hypertrophy of the left ventricle; (2) accentuation of the aortic second sound, about which we all agree; and, later on, (3) a muffling of the aortic second sound, which is not generally admitted, though the great authorities quoted above countenance the hypothesis. Such, then, are the associations of the premurmuric stage of aortic valvulitis in young persons with a history of sustained effort.

In elderly persons we find aortic valvulitis of a chronic nature developed along with other vascular changes in the subjects of gout or chronic Bright's disease. Here there is contraction of the minute systemic arterioles, with a rise of blood-pressure in the arteries. Then develops hypertrophy of the left ventricle, and the high blood-pressure in the arteries is kept up. The pulse is hard and incompressible, and the tension on the aortic valves on the aortic rebound is great, and the sound produced is accentuated. These are the associations of aortic valvulitis in the aged or elderly. Again, we see that the tension in the aortic valves is the cause of trophic changes in them. When we meet with an elderly person presenting the evidence of high arterial tension, with a firm incompressible pulse, not obliterated by pressure of the finger during the diastole, and an hypertrophied left ventricle, and still more when the arteries are becoming atheromatous, we may reasonably suspect that changes in the aortic valves may ensue. If the tone of the valve-sound alter from accentuation to muffling, we may reasonably conclude that disease is present, and that a murmur will in time be heard. Accentuation may be present for years, and does not necessarily involve valvulitis or the production of a murmur. But if muffling come on, then we may be certain, or all but certain, that the case is entering upon a new phase, and that disease is actively progressing. If this stage of muffling can be demonstrated, it will be advantageous from a prognostic point of view, as well directing the treatment to be adopted, to arrest the disease at least, if it cannot be brought to a standstill.

I sent an old man lately to Dr Sansom of the London Hospital, in whom I thought muffling of the aortic second sound was present, along with some cardiac hypertrophy and atheromatous arteries. Amidst other disease the condition was somewhat obscure. Dr Sansom wrote me: "I think the second sound, though feebly heard, has a dull leathery character." Six weeks later he wrote me: "The aortic second sound is very dull, valves probably thick." My interpretation of the signs is, that amidst other vascular change the aortic valves are becoming diseased; while Dr Sansom is inclined to think that the aortic valves were altered by an attack of rheumatic fever thirty years ago, and that the valves are in a static, non-progressive condition. Either hypothesis is possible; but in either case dulness of the aortic second sound is admitted as being "probably" connected with some thickening of the valves.

In April 1874 I saw a gouty lady, and my notes of her contain the following passages:—"Arteries atheromatous; hard and tortuous. Left ventricle hypertrophied (apex a rib down); aortic second sound not clear; probably the free edges of the valves are thickened." This month she was examined by an able provincial physician, who writes me: "Mrs ———'s heart is as you heard it, only with now some little irregularity; there is hypertrophy, and the second sound somewhat indistinct, *but absolutely no murmur*. She has had on more than one occasion most suspicious 'breast pang.'" Further observation of this case is then necessary. Indeed, extended observation of such cases by several observers will be requisite, before it can be held as proven that there is an intermediate stage of muffling betwixt the accentuation of the aortic second sound and the ominous and significant diastolic murmur, which tells that disease of the aortic valves is unmistakably present.

In a case I saw in private lately, the patient had been examined by his son, a medical man, three years ago, and then there was marked accentuation of the second sound at the aortic valves. Now there is a distinct to-and-fro murmur at the aortic area, showing that the valves have become so altered that there is now both obstruction and regurgitation. Whether there was any intermediate stage in the case is unknown. But that a distinct accentuation of the aortic second sound preceded the development of the murmur is beyond question.

To sum up, then, it may be regarded as proven that a condition of accentuation of the aortic second sound commonly precedes the murmur which indicates disease of the aortic valves. An attempt has been made to demonstrate that an intermediate stage, of which the main sign is muffling of the aortic second sound, occurs betwixt these two conditions, with what success your decision will say. I leave the matter in your hands.

The practical importance of being able to recognise commencing aortic valvulitis, without having always to wait for the unmistakable evidence of a murmur, is distinct enough. We know well, from the history of mitral disease arising in an attack of acute rheumatism, that a certain injury may be done to the mitral flaps which may remain static and stationary, non-progressive; where the patient may live for years, scarcely crippled, and severe effort alone reveals the impairment of the valves.

The evidence of such a static condition of the aortic valves is not so convincing from its magnitude. But it is very desirable that we should always be on the alert to suspect commencing aortic valvulitis, when we find a clearly accentuated second sound along with hypertrophy of the left ventricle. If the patient be a young man, leading a very active life, like a university oarsman, then we can recommend a quiet life, and so, probably, in many cases bring the aortic mischief to a standstill. If he be a striker, or a bargee, we can advise a change of occupation, which will lessen the demand upon the aortic valves, and so, at least, retard the valvulitis. If the patient be a middle-aged or elderly person, and along with an accentuated aortic second sound we find an hypertrophied left ventricle, and a pulse full and incompressible, then we can suspect aortic valvulitis as a very probable consequence, and can do much to stave it off or retard its progress by bearing its causation in mind. Excess of nitrogenised waste is the cause of the high arterial tension which starts atheroma in the arteries, and a growth of connective tissue in the aortic valves, the consequences of which are so dire. One can do much for such a condition. The amount of meat in the dietary must be reduced, and potash, with or without colchicum, taken regularly. Cleanse the blood, and the subsequent condition—the "gouty heart," with its associated pathological changes—will be brought to a comparative standstill. If the looming mischief can be detected before such progress has been made as mutilates the valves and so produces a murmur, the brighter the prospects of our treatment. It is very important, then, to note the indications of commencing disease, and to make out, if clinically possible, the premurmuric stage of aortic valvulitis. Even if the intermediate stage of muffling cannot absolutely be demonstrated, still, if accentuation give way to muffling or a dull second sound, we have good and valid reasons to fear that such trophic changes are going on in the aortic valves as will before long furnish the dreaded and significant murmur.

Dr Broadbent, after a few remarks on the case presented to the Society by Dr Fothergill, proceeded to congratulate him on his interesting and valuable paper, with a great part of which he entirely agreed. He concurred with the author in the importance he attached to accentuation of the aortic second sound (which, strangely enough, Dr Balfour, writing in 1876, had said could not occur from any general systemic cause) as indicative of undue strain on the valves, which frequently gave rise to inflammation, and ultimately to insufficiency. But while recognising this accentuation of the aortic second sound as an antecedent of regurgitation, and admitting its significance, he could not accept the intermediate stage in which the sound became dull. His attention had for many years been fixed upon the effects of strain on the aortic valves. He had not had the opportunity of watching these in "strikers" or athletes, but he had had under observation many patients in whom it was due to retained nitrogenized waste and to kidney disease; and he had seen cases proceed, on the one hand, to angina pectoris, and on the other to regurgitation, but had never noted any such change in the character of the second sound. On the contrary, he had met with cases, and had at that moment one under observation in St Mary's Hospital, in which there was co-existence of a diastolic murmur and of an accentuated aortic second sound audible at the right sterno-clavicular articulation and in the neck. Of course when the leakage is considerable the second sound disappears, as there is not the requisite tension for its production; but a very narrow chink may give rise to a murmur, while the valves are for all practical purposes competent and quite capable of producing a second sound. He believed that the expectation of a change from the sharp accentuation of the second sound to a sound more or less dull, rested on an imperfect theory of the production of the second sound. At one time it was commonly supposed to be produced by the click of the valves as they came together, but now the prevailing idea was that it was due to the tension of the valves. The late Dr Sibson, however, had shown conclusively that it was not the tension of the valves alone which gave rise to the second sound, but of the arterial walls and valves together; and that the character of the sound was determined more by the condition of the walls of the vessel than by the valves. Dr Broadbent had had few additions to his knowledge of the functional action of the heart more fruitful in its applications than this. It was impossible on any other grounds to explain the modification of the aortic second sound produced by dilatation of the ascending aorta; this was something more than accentuation. It was not easy to convey an idea of a sound by descriptive terms, but it had been called booming or voluminous, and the change was what might be expected from the tension of a wider cylinder with thinner walls. The valves were not carried into position by the refluent blood, but took up a position covering the orifice in virtue of the disposition of the elastic fibres in their structure, and were ready for the recoil of the column of blood, and so long as they were competent, they and the whole root of the aorta would be thereby rendered suddenly tense, and together yield the second sound, the character of which would be determined not simply or predominantly by the condition of the valves, but also by the condition of the arterial walls. There was, moreover, he considered, no reason to suppose that the valves were specially thick just before they became incompetent, and allowed of regurgitation; on the contrary, as the valvulitis is exceedingly chronic, and the insufficiency is due to consecutive contraction, they would certainly in most instances have been more thick and soft some time previously.

Dr Stephen Mackenzie said—I think many important points are raised by Dr Fothergill's communication. It is clear that, in all except the acute inflammatory cases, valvular changes precede for a longer or less period the murmuric stage of heart disease; that the valvular defect not being suddenly produced, will probably give some evidence of its condition before a positive murmur is produced; and that it is of the greatest clinical importance to be able to foresee the probable issue of events, before the existence of a bruit makes it obvious, by recognising the premurmuric signs. The latter have been given, I believe, correctly, as far as they go, by Dr Fothergill, and on the foundation he has laid, others may raise a superstructure rendering it still more easy to detect the premurmuric stage of aortic valvulitis. I can confirm Dr Fothergill's observations as to the sequence of events in chronic aortic valvulitis due to strain. One observes the increased ventricular impulse and prolonged first sound, the accentuated second sound, and the hard pulse of increased arterial tension. In some of such cases, on being followed up, the other signs remaining the same, a sound is noticed, at first too indistinct to call a bruit, tailing off from the still accentuated second sound; later the second sound is wholly replaced by a bruit, of course diastolic. It seems to me that these signs indicate the sequence of events occurring in the aorta and its valves. First, the chronic inflammation (due to strain, syphilis, and other causes) leading to sclerosis and loss of resilience of the aorta, and inducing hypertrophy of the left ventricle; and next, as the organized inflammatory products in the valves contract, the valves are rendered *gradually* incompetent to retain the blood on the aortic recoil. In all of such cases, however, as indeed I may almost say in all cases of aortic regurgitation, the first sound is prolonged and altered, never having the pure shock sound of health. This is in accordance with post-mortem experience, for on examining valves diseased by rheumatic endocarditis or by atheroma, the valves have lost their pliancy, and offer a certain, though not necessarily great, resistance to the entrance of blood during systole. In this connexion, I may mention that I believe Dr Fothergill's statement as to the respective changes produced in the cuspid valves under the two conditions of rheumatic endocarditis and atheroma to be correct, and would add, that in the former the cusps have a tendency to curl towards the ventricles, in the latter towards the aorta. After what Dr Fothergill has said, and from what others have observed, I think it is clear that one is not justified in assuming absence of valvular disease from the absence of murmur. This is true as regards the aortic orifice; is it less true as regards the mitral? One sees, not very rarely, cases of acute rheumatism, where, during the acme of the attack, there is a murmurish first sound, or even a soft systolic murmur at the apex. As the attack progresses the murmur or altered first sound disappears, and gives place to a sound indistinguishable from that of health. A few weeks or months later, when the patients return to report themselves, as they invariably should do, a murmur is present, and persists. In such cases, as Dr Fothergill points out, one must assume the valve swollen and infiltrated with inflammatory products, thus giving rise to the primary temporary murmur, and, as the products of inflammation become organized, they shrivel and distort the valve, after a period of some weeks or even months, and thus produce the permanent bruit. More careful examination of such cases may yet reveal to us some signs indicative of the "intermurmuric stage" of mitral valvulitis. What is of great pathological importance is, that in those cases of chorea, sometimes seen, in which no murmur can be detected when the patient is first seen, and yet a mitral regurgitant murmur becomes manifest, and remains permanent, it is possible that there may be valvulitis—and if so, of course, some of its remote consequences—in a premurmuric stage. Such cases admit, I am aware, of other explanation, such as that of Dickinson, that it is the consequence of the choreic affection of the heart; or that it is also, like the chorea, a rheumatic manifestation of the attack. I think, however, the point is one of great importance, and hope Dr Fothergill will help us to discover the premurmuric stage of mitral valvulitis.

Dr Sansom.—I consider it a point of very high importance in the physical diagnosis of diseases of the heart, to take note of the characters of the second sound heard over the site of the aortic valves. We thus obtain not only indications as to the conditions of the valves themselves, but also criteria as to blood-pressure—points of the utmost importance as regards prognosis during the progress of any case. And when we hear a decidedly accentuated second sound which tells us of an arterial blood-pressure greater than the normal, we are able, I think, to form an opinion as to the pathological state of the valves according to the quality of the sound we hear. Of such sounds we may have a *slap*, a *boom*, or a *thud*, each having some intrinsic signification. I am entirely of opinion, therefore, that we are able to judge of pathological changes in the aortic valves which are not betrayed by murmurs. Obviously, however, this is a much wider proposition than that brought forward and sustained by Dr Fothergill. The proposition which we have to consider is this: The pathological changes in cases of disease attacking the structures at the aortic orifice are progressive; in the earlier stages of such disease the segments of the valve are altered, but yet are competent; it is contended that such stages of the disease can be recognised. It follows that in a given case it can be predicted that at a future stage the valve-segments will become incompetent, and regurgitation will ensue. The stage, then, called by Dr Fothergill, from its *clinical characters*, the "premurmuric stage of aortic valvulitis," may, from its *pathological characters*, be termed the "ante-regurgitant stage" of aortic disease.

In considering this proposition we must not fail to appreciate certain difficulties As I have said, I fully agree that even in the absence of murmurs we may be justified in arriving at the diagnosis of structural alterations of the valves. It is quite another thing, however, to say that the signs denote changes which must be progressive. Obviously the condition may be stationary, and our experience points to numbers of cases in which the signs do not vary throughout periods of years.

As an illustration of the difficulties which we have to encounter, I may refer to a case which Dr Fothergill has been kind enough to send me for observation. In this case a man of 69 evidenced palpitation, dyspnœa, with modified angina. The signs were aggravated after exertion, and at once gave rise to the supposition that they were due to cardiac disorder. There were evidences of hypertrophy and dilatation of the heart, but at my first examination I detected no murmur. Arterial atheroma was pronouncedly indicated by tortuous arteries, whose coats showed a want of uniformity to the touch. Moreover, there were pulsations in the arteries of the neck, more on the right side. The veins also were turgid and dilated, and, as I considered, exhibited a faint pulsation. Now, as regards the heart-sounds. Whilst the first sound at the apex was rather prolonged, the second sound at the base was scarcely audible. It could be recognised, however, and had nothing of a murmurish character—it was very dull. Let us here call attention to a point that I have found of great importance in diagnosis. When we hear a feeble second sound over the aortic valves we are by no means to conclude that there is a feeble reflux: the valves being thickened and leathery, may close with a sound that may be almost inaudible. In such case our tactile impressions aid the diagnosis, as in the instance of this patient, for the finger in the second right interspace perceived a distinct shock at the moment of the second sound. I concluded, therefore, as Dr Fothergill had concluded from his previous examination, that the aortic valves were altered and thickened; but yet I heard no evidences of their permitting any regurgitation.

But now another question presented itself. Was this an example of what might rightly be called "aortic valvulitis," or was it a chronic condition left by a former disease? I found on inquiry that the patient thirty years previously had suffered from rheumatic fever, and that he had suffered from joint pains more or less ever since We could not, therefore, exclude rheumatic endocarditis as a probable cause of the diseased conditions. I had the patient under observation in the London Hospital for a short time, and in the quietude of the ward there was evidence of what was not detected before—a decided systolic murmur at the apex. I felt quite certain that there was mitral regurgitation, with the failure of heart commonly observed in the late stages of the affection. I thought it the more probable hypothesis that this disease was the legacy of rheumatism—that it was rheumatic endocarditis of slow evolution. Commencing in the mitral valve, rheumatic endocarditis tends to spread over the endocardium lining the left ventricle to the aortic valves, ultimately involving these also. Such might reasonably be supposed to have occurred in this case, the valves being thickened, but not incompetent. Atheroma, however, was undoubted, and from the sphygmographic tracings we thought there was some evidence of aneurismal sacculation. Atheromatous disease might, therefore, be a concurring cause with the rheumatic endocarditis. Of course, it is quite a legitimate hypothesis that all the conditions were the outcome of atheroma, though I myself should incline to the greater probability of the rheumatic causation.

This case, then, illustrates the difficulties of the subject under discussion. Suppose the question propounded in regard to it, "Is this a case of the premurmuric (ante-regurgitant) stage of aortic valvulitis?" I could only answer, that I must withhold my opinion until after many examinations. I should after some time be enabled to say, This is *not* a case of *typical* aortic valvulitis, because it is complicated by mitral disease. Again, I could not consider it a typical form of aortic valvulitis, because the history is so closely associated with rheumatism, and the probabilities of the occurrence of rheumatic endocarditis are so great. We have to remember that where the aortic valves are altered by *rheumatic* endocarditis it is almost invariably found that the mitral are affected also. Of the implication of both, I think we have evidence in this case. Typical aortic valvulitis is unassociated with rheumatism; its common causes are alcoholism, overstrain, atheroma, gout. The case under consideration, therefore, I cannot consider *typical,* though it is very probable that atheromatous aortitis may be a concurring cause.

From these criticisms I am by no means to be understood to imply, that the conditions so ably described by Dr Fothergill have no clinical status. On the other hand, I think a strong case has been brought forward as to their existence and their value, only I think exclusion will reduce them to comparative rarity. Given an example of a patient who shows a certain train of symptoms, whose history indicates a certain probability of the oncome of aortic valvulitis, and in whom auscultation demonstrates an altered second sound without murmur; then the considerations adduced by Dr Fothergill ought to lead us to a better scientific appreciation of the position than heretofore. A little longer, and the complete competence of the valves may become an only partial competence. Let us remember that such partial competence—a position only a little removed from that now described by Dr Fothergill—has been recognised as a discoverable lesion by Dr Hayden. A post-diastolic murmur at the base is regarded by Dr Hayden as evidence "either of a transitional state of the valves, an early stage in the process of valvular disorganization, or of dilatation of the aorta without valvular disease. It is, therefore, of much value as an aid to precise diagnosis, and in determining the probable duration of life."[1] It will be of great value to us as practitioners if we can discover the diseased condition previously to the more complete disorganization when the fatal regurgitation commences; and still more important if, when discovering it, we can suggest any means of arresting the danger.

ARTICLE IV.—*Cases of Intra-Cranial Tumour.* By BYROM BRAMWELL, M.D., Physician and Pathologist to the Newcastle-on-Tyne Infirmary, Joint Lecturer on Clinical Medicine and Pathology in the University of Durham College of Medicine, Newcastle-on-Tyne.

(*Continued from p. 605.*)

CASE VIII.—*Female, æt. 20. Headache; Vomiting; Double Optic Neuritis, with Perfect Vision; Relief under Iodide of Potassium and Chloral; Convulsion; Death; Large Tumour pressing upon and causing Extensive Atrophy of the Ascending Frontal, Ascending Parietal, Inferior and Middle Frontal Convolutions, and of the Island of Reil, on the Right Side.*

M. D., æt. 20, single, shop girl, was admitted to the Newcastle-on-Tyne Infirmary on 5th January 1877, complaining of headache, vomiting, and giddiness.

Previous History.—When nine years of age she fell and hurt her head; the injury was a severe one, and was followed by vomiting. With this exception she has never been laid up until the present attack. It commenced three years ago with headache. Eight months ago the headache got worse, and she vomited occasionally. Two months ago she had to leave her situation. She says she has never had a fit, but has more than once tumbled off her chair when sitting, in consequence, she thinks, of giddiness. She has only menstruated once, and that was two years ago. She knows no cause for her illness. There is no suspicion of syphilis.

The family history is good.

Present Condition.—She is a well-developed and well-nourished girl, and, with the exception of a slightly coated tongue, is, as regards the circulatory, respiratory, alimentary, and urinary systems, perfectly healthy.

She seems intelligent, but her friends say that she is very much quieter than she used to be. The face at times has a somewhat dusky, congested hue. The eyes are unusually prominent, but have always been so. The headache is severe, and is worse at

---

[1] *Diseases of Heart and Aorta*, p. 238.

dura, was of a reddish colour, and had a striated, granular appearance. It seemed to be made up of delicate fibre bundles. The margins of the tumour were very thin, and seemed to be gradually applying themselves to, and invading adjacent convolutions. The section of the tumour was of a dark purple colour, granular in appearance, and very soft and friable. After hardening in spirit it was readily separated from the subjacent brain tissue, and was found to be surrounded by a delicate fibrous capsule. Several large vessels passed into and out of the tumour. On *microscopical examination* it was found to be a sarcoma. The fibre cells were large and were arranged in bundles. In addition to cells, the tumour contained numerous large oval nuclei and granular protoplasmic material.

There were no signs of hæmorrhage about the tumour.

The convolutions of the left hemisphere were much flattened, and the sulci effaced. There had been evidently great squeezing of brain tissue. With this exception, however, the other parts of the brain were quite normal.

Remarks.—This tumour was of great size, and had caused extensive destruction of nerve tissue in regions which are now acknowledged to be motor, and yet there was no paralysis. In this respect the case contrasts remarkably with cases I. and VII. previously related, in which limited lesions of the same parts of the cerebral cortex gave rise to marked motor symptoms, *i.e.*, convulsions.

This radical difference can only be explained by supposing that the pathological changes induced in the nervous tissue by the foreign body, *i.e.*, the tumour, were different in the two cases. In Case VIII. there was slow and gradual destruction. In Cases I. and VII. irritation of the nervous elements. In fact, in Case VIII. there was a "destroying," and in Cases I. and VII. a "discharging" lesion.

Now, as Dr Hughlings-Jackson has pointed out, a discharging lesion of necessity gives rise to symptoms—convulsions, in the base of a motor centre—but a destroying lesion may be unattended by paralysis *provided that the destruction is a slow and gradual process.*

The absence of paralysis in these cases is explained by supposing that other motor centres carry on the functions of those which are destroyed. It is generally supposed that these "substitution" centres are situated in the same hemisphere, and such, probably, is the rule. This case, however, in which the destruction was so extensive, and the remarkable case which I shall next relate, in which the left corpus striatum was destroyed, and in which there was no paralysis, seem to show that the "substitution" centres must, sometimes, be situated on the opposite side of the brain.

Destruction of a large part of the right hemisphere is more likely to be compensated than destruction of the left, for the latter is the more active or "driving" side.

The age of the patient is also of importance. In young subjects night; the pain is referred to the forehead and to the vertex. There is no tender spot on the surface of the cranium.

Special Senses: Sight.—The pupils are equal and moderately dilated. Vision is so perfect that she can read with ease the smallest type, and yet the ophthalmoscope shows marked double optic neuritis. *Hearing*—The skull sounds are not heard in the right ear. *Smell* is imperfect in both nostrils. (This was probably only temporary, the result of iodism.) *Taste* is perfect.

Speech is natural. *There is no trace of paralysis.* The temperature is normal.

Diagnosis.—An intra-cranial tumour. This opinion was based on the headache, vomiting, and above all the optic neuritis. There were no localizing symptoms; the seat of the tumour, therefore, could not be defined.

Treatment.—Full doses of iodide of potassium, and anodynes for the headache.

Progress of the Case.—On 18th and 19th January she frequently vomited, and the headache was intense. Croton chloral, 10 grains three times daily, was prescribed.

On 28th January she was very much easier; indeed, she felt so well that she expressed a wish to go home.

On 5th February there was some return of the headache, but she said it was nothing; and that she felt quite able to go home the next day as she had arranged.

On 6th February.—At 1.30 A.M. my clinical clerk, Mr Tait, was suddenly called to see her. He found that she had just died in a convulsion.

The Autopsy was made eleven hours after death. The head only was examined. The scalp was natural. The lower part of the right parietal bone, the inferior frontal sub-division of the right frontal bone, and the upper part of the squamous portion of the right temporal bone, were reduced to half their normal thickness. The dura was not adherent to the bone, but was firmly attached to the subjacent membranes in the right inferior frontal and inferior parietal areas. On removing the dura a large tumour was seen to be situated in these regions. It seemed to spring from the commencement of the right Sylvian fissure, and had destroyed the posterior half of the inferior frontal convolution, the lower half of the ascending parietal convolution, the lower half of the ascending frontal convolution, and the outer half of island of Reil on the right side. It had also invaded the superficial surface of the posterior half of the middle frontal convolution, the anterior part of the supra-marginal convolution, and the anterior part of the superior sphenoidal convolution.

The tumour measured from before backwards three inches, from above downwards three inches, and from without inwards 1½ inches.

The surface of the tumour, where it was unadherent to the dura, was of a reddish colour, and had a striated, granular appearance. It seemed to be made up of delicate fibre bundles. The margins of the tumour were very thin, and seemed to be gradually applying themselves to, and invading adjacent convolutions. The section of the tumour was of a dark purple colour, granular in appearance, and very soft and friable. After hardening in spirit it was readily separated from the subjacent brain tissue, and was found to be surrounded by a delicate fibrous capsule. Several large vessels passed into and out of the tumour. On *microscopical examination* it was found to be a sarcoma. The fibre cells were large and were arranged in bundles. In addition to cells, the tumour contained numerous large oval nuclei and granular protoplasmic material.

There were no signs of hæmorrhage about the tumour.

The convolutions of the left hemisphere were much flattened, and the sulci effaced. There had been evidently great squeezing of brain tissue. With this exception, however, the other parts of the brain were quite normal.

Remarks.—This tumour was of great size, and had caused extensive destruction of nerve tissue in regions which are now acknowledged to be motor, and yet there was no paralysis. In this respect the case contrasts remarkably with cases I. and VII. previously related, in which limited lesions of the same parts of the cerebral cortex gave rise to marked motor symptoms, *i.e.*, convulsions.

This radical difference can only be explained by supposing that the pathological changes induced in the nervous tissue by the foreign body, *i.e.*, the tumour, were different in the two cases. In Case VIII. there was slow and gradual destruction. In Cases I. and VII. irritation of the nervous elements. In fact, in Case VIII. there was a "destroying," and in Cases I. and VII. a "discharging" lesion.

Now, as Dr Hughlings-Jackson has pointed out, a discharging lesion of necessity gives rise to symptoms—convulsions, in the base of a motor centre—but a destroying lesion may be unattended by paralysis *provided that the destruction is a slow and gradual process.*

The absence of paralysis in these cases is explained by supposing that other motor centres carry on the functions of those which are destroyed. It is generally supposed that these "substitution" centres are situated in the same hemisphere, and such, probably, is the rule. This case, however, in which the destruction was so extensive, and the remarkable case which I shall next relate, in which the left corpus striatum was destroyed, and in which there was no paralysis, seem to show that the "substitution" centres must, sometimes, be situated on the opposite side of the brain.

Destruction of a large part of the right hemisphere is more likely to be compensated than destruction of the left, for the latter is the more active or "driving" side.

The age of the patient is also of importance. In young subjects the processes of repair and compensation are much more efficiently carried out than in the fully formed being. In young subjects too, movements are much more automatic, much less highly specialized, than in the adult. These facts may help to explain in accordance with the substitution theory, the absence of paralysis in Case IX.

The absence of obvious paralysis, when a motor centre is destroyed, gives a clue to the mode in which muscular movements are represented in the motor centres, as the following quotation from Dr Hughlings-Jackson's *Clinical and Physiological Researches on the Nervous System* shows:—

"Then it may be said that one convolution will represent only the *movements* of the arm, another only those of speech, another only those of the leg, and so on. The facts above stated show that this is not the plan of the structure of the nervous system. Thus, to take an illustration, the external parts x, y, and z, are each represented by units of the corpus striatum. But the plan of representation is not that some units contain x largely only, as x^3, others y largely only, as y^3, but that *each* unit contains, x, y, and z,—some, let us say, as x^3, y^2, z, others as x^2, y^3, z, etc. When we come to the still higher evolution of the cerebrum, we can easily understand that, if the same plan be carried out, a square inch of convolution *may be wanting*, without palsy of the face, arm, and leg, as x, y, and z are represented in other convolutions; and we can also easily understand that *discharge* of a square inch of convolution must put in excessive movement the *whole* region (face, arm, and leg), for it contains processes representing x, y, and z, with gray matter in exact proportion to the degree of complexity."—(Page xv.)

Again, "A region of the body is not permanently paralyzed when a part of the brain representing it is destroyed, because the neighbouring parts also represent the very same region. This is what we should expect on the Principle of Evolution; for the higher the centre, the greater the number of *different* movements and impressions represented in it. This implies a greater number both of nerve fibres and cells. Now, of course, the more fibres in the centre, the less loss of movement will result from the destruction of part of it; and, of course, the more ganglion cells the more over-movement from discharge of an unstable part of it."—(Page xvii.)

The circumstance that the skull sounds were not heard in the right ear is a point to which I wish briefly to refer. Nothing in the auditory nerve nor in the internal ear was found to account for this condition. It will be observed that the bone over the tumour was very thin. The question arises whether this abnormal condition of the bone could in any way account for the non-conduction of the skull sounds. The point is, I think, worth noting, for in other cases of intra-cranial tumour in which there has been no post-mortem, I have remarked the same fact, namely, that the patient professed not to hear the skull sounds. It is just possible that we may have in this a localizing symptom of some importance.

CASE IX.—*Boy, æt. 5. Headache; Vomiting; Optic Neuritis, with Good Vision; Voracious Appetite; Phosphaturea, with Puffy Face and Eyelids; General Nutrition Good; No Paralysis. Complete Temporary Relief under Iodide and Bromide of Potassium. Gradual and Increasing Mental Apathy; Excessive Sleepiness; Attack of Right Internal Strabismus; General Convulsion; Failure of Vision, due to Optic Atrophy; Severe General Convulsion, followed by Left-Sided Hemiplegia, Coma and Death. Six Scrofulous Tumours in various parts of the Cerebral Hemispheres: Left Corpus Striatum destroyed.*

J. W., æt. 5, was admitted on Feb. 27th, 1877.

Previous History.—His parents stated that his illness commenced three months ago with headache and vomiting. The vomiting was slight, and only occurred once or twice. The headache was generally worse at night. For the past week it has been so bad that he has cried for the greater part of the night. His parents know no cause for his illness. Eighteen months ago he had a severe attack of scarlet fever; he had, however, quite recovered from it months before his present complaints commenced. Two years ago he fell down stairs and injured his head severely, but has not suffered from headaches until the present attack. There are no signs of congenital syphilis.

The family history is good, the parents and all the other children being healthy.

Condition on Admission.—He is a sharp, intelligent, and lively boy, very active, and well nourished. The face is pale and somewhat puffy about the eyelids, but the urine is free from albumen; it is, however, loaded with phosphates.

The exterior of the skull is natural, and there are no tender spots on percussion. The headache is frontal, and, as a rule, only comes on at night. The pupils are equal and dilated. Sight is good, but marked optic neuritis is seen in both eyes. The other special senses are normal. There is no trace of paralysis. The gait is natural. He has never had a fit. His appetite is voracious, in fact, he bolts everything that comes before him.

The left wrist joint is swollen and evidently in a state of scrofulous degeneration. He does not complain of it, and it is only slightly tender on pressure. The sensibility of the skin both to touch and pain seems lessened. This loss of sensibility is general, and apparently is not complete at any part. His parents say that the wrist has been in its present state for several weeks.

The *pulse* and *temperature* are normal. The *digestive, circulatory,* and *integumentary systems* are normal. The *respiratory system* is normal. (This statement needs qualification. There never were any subjective signs of lung disease, nor was any physical change detected during life, owing, probably, to the fact that the bases of the lungs were not examined; otherwise the lesion found post-mortem must have been detected. The apices were carefully examined, as I suspected the intra-cranial disease to be tubercular.)

The *diagnosis* was an intra-cranial tumour. The position of the tumour could not be ascertained as there were no localizing symptoms. From the associated condition of the wrist joint, and from the age of the patient, it was thought to be scrofulous.

Treatment.—A mixture containing iodide and bromide of potassium was prescribed. Tincture of iodine was painted over the swollen wrist, and it was supported by a splint.

Subsequent progress of the case.—On *March* 10*th* it was noted :—He is apparently quite well. There has been no headache for several nights. Indeed, so well did he seem that the nurse repeatedly asked me why I did not send him home. He continued well until March 20th, when an internal squint in the right eye was noticed; the eyeball was turned inwards and upwards, and the squint was increased by looking at distant objects. The dose of iodide was increased to 10 grains.

On March 26*th* it was noted:—For some days past he has been dull and heavy, and has slept a great deal. The left wrist joint was to-day opened under antiseptic precautions; a quantity of thick cheesy pus was evacuated.

On April 5*th* he had a series of severe general convulsions; both sides of the body were affected, the left more powerfully than the right. The convulsions continued more or less for three hours.

On April 6*th* he looked pale, but seemed otherwise much as usual. The squint was less marked, and on April 20th it had disappeared. For the next two months he remained in a passive state, making no complaint, eating voraciously, and sleeping too constantly. He gradually became more dull and stupid. His eyesight failed, and the ophthalmoscope showed the steady progress of optic atrophy. All this time the body continued to be well nourished, *and there was not now, nor at any subsequent period, until after the final convulsion, the slightest trace of paralysis.*

On 30*th June* an herpetic eruption appeared underneath the left eyelid.

On 4*th August* he vomited several times without any obvious cause.

On 17*th August* he was seized with convulsions; the spasms again chiefly affected the left side. After the attack the left arm and leg were found to be paralyzed.

The patient remained in a semi-comatose condition until 21st August, when he died at 11.30 P.M.

The *post-mortem* was made nineteen hours after death. The body was well nourished. There was nothing noteworthy in the external appearances.

Head.—The scalp, bones, and membranes were natural. There was evidence of great intra-cranial tension, the convolutions being very much flattened, and the sulci effaced. The brain weighed 2 lbs. 14½ oz. On cutting into the cerebral substance, nodules of new growth were found in the following situations:—

1st, A pyriform nodule, size ¾ inch by ½ inch, in the extremity of the first left frontal convolution, where it turns over to become the supra-marginal convolution.

2d, An irregular-shaped nodule, measuring 1¼ inch in length by ⅜ of an inch in breadth, in the left gyrus fornicatus, at the junction of its middle with its posterior third.

3d, An irregular nodule slightly larger than the preceding nodule in the corresponding part of the right gyrus fornicatus. This nodule extended upwards through the gyrus fornicatus and the supra-marginal convolution to within a quarter of an inch of the vertex of the hemisphere.

Nodules two and three were joined by a connecting band of new growth, which rested upon the posterior part of the corpus callosum.

4th, An oval nodule, ¾ of an inch in length by ½ an inch in breadth, in the tip of the left occipital lobe.

5th, An irregular nodule, ⅝ of an inch in length by ⅜ of an inch in breadth at its broadest part, in the angular gyrus of the right side.

6th, A large round nodule, 1¼ inch in diameter, in the position of the left corpus striatum, which was almost entirely destroyed by it.

All the nodules of new growth presented the same character. They were of a yellowish colour, very firm in consistence; none of them presented any trace of softening. They were separated from the surrounding healthy brain tissue by a narrow line of softened material. After some days' immersion in spirit all the nodules could be easily separated from the surrounding brain tissue. On microscopical examination they were found to present the usual characters of the tubercular brain tumour. The line of softening between the nodules and the brain tissue proper contained numerous bloodvessels. The fibrous element in the nodules was greater than is usually seen in this form of growth.

The vascularity of the brain seemed normal. The ventricles were normal. No nodules were found in the cerebellum. The upper portion of the spinal cord was placed in hardening solution, but unfortunately was mislaid; a circumstance which I much regret, for one of the most interesting points in the case would have been the course of the degenerated fibres in the cord.

In the lower lobe of the left lung there was a large dry caseous mass. Some gray tubercles were scattered throughout the rest of the left lung. A few were also situated in the apex of the right.

The peritoneum, intestines, and other organs of the body were normal.

The left wrist joint was in a state of scrofulous degeneration.

Remarks.—The great point of interest in this case is the fact that nearly the whole of the left corpus striatum was destroyed without any resulting paralysis. I have already commented on it in my remarks on the previous case.

The other nodules of new growth were situated in regions which experimental investigations have shown to be non-motor.

According to Ferrier, a lesion of the anterior part of the frontal lobe would be attended with mental apathy, dulness, and a tendency to sleep,—an opinion which is confirmed to a great extent by clinical observations in the human subject. In this case the lesion in the frontal lobe was small, and it would be exceedingly rash, I think, considering the number and extent of the other lesions, to attribute the mental lethargy and tendency to sleep, which were marked features of the latter stages, to it alone. That Ferrier's conclusions as to the frontal lobes are correct I believe, and they are confirmed, I think, by cases already reported in this series.

According to Ferrier the angular gyrus is the centre for vision of the opposite side. In this case, in which there was a lesion in the right angular gyrus, vision was considerably affected towards the end. The loss of vision was, however, clearly due to the local changes in the fundus. The case, therefore, neither proves nor disproves Ferrier's most interesting observations on this point.

Other interesting points in the case are—

1st, The voracious appetite. I have already referred to the opinions of Drs Lawson and Bevan Lewis, and stated that they believe a voracious appetite to be an early symptom of cerebral tumour. Their opinion seems to me to be corroborated by this case. It is the only one, however, in which I have noted this symptom.

2d, The general good condition of the patient, associated as it was with the presence of tubercles in the lungs, and with the extensive cerebral lesions. The absence of wasting was probably due to—

(*a*) The absence of fever.

(*b*) The voracious appetite, and healthy condition of the digestive organs.

(*c*) The apathetic condition of the patient. The fact that there was little or no pain in the wrist-joint is probably to be explained in the same way.

3d, The fact that the cerebellum, which is the most frequent seat of intra-cranial tubercles, was healthy.

4th, The absence of any softening in the cerebral lesions.

(To be continued.)

ARTICLE V.—*Observations on some points in Dextral Valvular Disease of the Heart, being a Graduation Thesis.* By ALEXANDER MORISON, M.D., Edinburgh.

INTRODUCTORY.

THE recent legal restrictions imposed on the practice of vivisection are doubtless to be deprecated, on account of their limiting the number of scientific experiments, by reducing to a mere handful the number of experimenters, and also from their robbing clinical research of such corroborative or confuting physical evidence as one might otherwise seek for. It can, however, scarcely be denied, that thus restricting the area of this branch of biological investigation, and leaving it in the hands of a few physicists, is calculated to give a fresh impulse to clinical research, the proper domain of the physician, as we now understand this term; and, at the same time, to direct energies, which might otherwise be devoted to the prosecution of experimental studies, to the more minute and careful observation of clinical facts. From thus directing greater attention to clinical work, the restrictions we have adverted to will necessarily increase the number of clinical workers, and by more equally matching the great body of the profession with those who have hitherto occupied the place of pioneers in the science and practice of medicine, are calculated to urge into the honourable race for professional distinction many who might otherwise, feeling themselves hopelessly overmatched, avoid the contest.

The arduous and multifarious duties of a general practitioner, from the time necessarily consumed by them, and the confusing impetus given to the mind in many different directions, interfere very much with the steady prosecution of any particular line of study. General practice is, however, not only a wide and varied, but also a rich field for scientific work, which might be utilized by a combination of general practitioners, intimate with one another, who, from their education and professional enthusiasm, would consent to act as colleagues in the prosecution of scientific inquiries, and to submerge for the common good the envious rivalry of traders in physic. I feel persuaded that such a combination among personal friends would not in any way interfere with pecuniary interests, would raise the professional status of the general practitioner, and be a powerful agent in promoting the progress of medicine and surgery, as the combined practices of several would afford as much material as many a hospital, while the division of labour would utilize time to the utmost.

If, in the following pages, I should appear to have gone too minutely into the details of the cases recorded, I must plead a conviction that such minuteness is as desirable in the physician as in the physicist or physiologist, while for any deficiencies, such as the non-employment of the sphygmograph, which might have rendered valuable aid in the inquiry, I would urge the limited amount of time at the command of "the busy practitioner," as he at present exists. In the pathological, physiological, and therapeutic portions of the essay alike, I may be pardoned for thinking that prominence has been given to some topics not hitherto specially discussed (so far as I know), such as the comparison instituted between the circulation of a quadruped and a biped, the use of digitalis in organic valvular disease of the *venous* heart, etc.

Finally, the illustrations, with the exception of the sketch of the heart of E. W. G. M., which I made shortly after the necropsy, are, I need scarcely say, wholly or half diagrammatic.

PART I.

"There is no class of diseases which submits so difficultly to the trammels of nosological arrangement as the chronic affections of the heart. Their characters are so ill defined, so difficult is it to distinguish the idiopathic affections of this organ from those cases in which its functions are sympathetically disturbed, so impossible to anticipate with certainty, by the symptoms, the presence of structural disease there—in fine, so intimately are the functional disorders of the heart connected with those of the brain, that an attempt to arrange systematically this class of diseases may be considered as almost hopeless."[1]

So wrote Dr George Gregory of chronic affections of the heart in general, fifty-three years ago. Happily for suffering humanity, the lugubrious prospect entertained by him has not been justified by the scientific progress of the last half century, and failure to diagnose the vast majority of cases of diseased heart, which an accomplished physician at one time regarded as inevitable, would probably, at the present day, refer a tyro to his studies till he had learned to overcome a difficulty which is scarcely acknowledged to exist.

While the comparative frequency of valvular disease of the left-chambers of the heart, and its careful investigation by physical processes, has resulted in a knowledge of the diagnosis of such diseases which is well-nigh perfect, the rarity of similar disease affecting the valves of the right side of the heart has naturally retarded our progress in the diagnosis and treatment of the latter—so much so, indeed, that one of the sites (pulmonary area) in which its diagnosis is possible, has gained the *soubriquet* of the "region of romance." The possible sacrifice or shortening of an occasional life, from imperfect knowledge of this kind of disease, is treated by some in their writings with contemptuous indifference, when the rarity of such cases is considered a valid preliminary to ignoring their discussion; others, who treat the subject with more consideration, confess a want of clinical experience, satisfactorily verified by post-mortem examination; and by none, so far as I know, has the matter been thoroughly investigated with a view to discover whether the physiological and clinical considerations differ sufficiently from analogous conditions in the arterial half of the organ, to necessitate a difference in the treatment of disease specially affecting the valves of the right heart.

---

[1] *Elements of the Theory and Practice of Physic*, by George Gregory, M.D., 1825, p. 445.

The title of this essay indicates its scope. While avoiding any attempt at an exhaustive treatise, which is precluded by our comparatively limited knowledge, I have endeavoured to point out some "considerations," not usually discussed, which appear to have an influence upon the scientific treatment of such disease. The circumstance which has prompted my investigation of this somewhat uncultivated field of inquiry, has been my study of a remarkable instance of disease affecting the pulmonary and tricuspid valves, and should I be enabled, in the opinion of my compeers, to cast any light upon the therapeutics of these rare maladies, and thus mayhap contribute to the relief of one sufferer in a thousand, I shall (to borrow a stereotyped phrase from many a preface) consider myself amply rewarded.

The case I have referred to was communicated to the Pathological Society of London on the 7th of December 1875, and my paper, together with the report of the Morbid Growths Committee of that Society, confirming the accuracy of my description of the specimen exhibited, and agreeing with me in the general conclusions of my paper, are published in vol. xxvii. of the Transactions of the Society. So much of that paper as bears upon the argument of this thesis I shall transcribe from the above publication. I shall then consider some physiological and pathological conditions calculated to elucidate valvular disease of the right heart generally; and, finally, discuss the therapeutic conclusions derivable from the context.

OBSTRUCTIVE AND REGURGITANT DISEASE OF THE PULMONARY VALVES; OBSTRUCTION OF THE RIGHT AURICULO-VENTRICULAR ORIFICE; DISEASE OF THE TRICUSPID VALVES ALLOWING REGURGITATION, ETC., ETC.

Mr E. W. G. M., aged 20 years and 9 months, a bank-clerk, single, and of temperate habits, came under my care on 20th May 1875, complaining of breathlessness both when active and when in bed, with occasional attacks of severe pain over the heart, passing up to the right shoulder and down the right arm, being particularly felt at the tip of the right little finger. He had also frequently experienced pain of a most acute and continuous character about the lower end of the sternum, which lasted on different occasions from half an hour to four or five hours, and was not influenced by food or drink. In bed he was most free fro uneasiness when lying on the right side, with the head bent forward, and should he when asleep have lain on his left side, th heart pain awakened him. When lying on the back the head wa usually turned to one side or the other. He thought that, on the whole, he was less embarrassed when sitting up than when lying down. He had also experienced a feeling of irritation about the nostrils, with a choking sensation, and during the last two or three months of life had occasionally slight attacks of epistaxis. For a year his feet were sometimes swollen across the instep towards night, but no trace of such remained next morning. He suffered much from general weakness, and occasionally had what he called fainting fits. When five or six years old the patient suffered from scarlatina, which was said not to have been severe, and to have left no perceptibly evil results. As a child he had frequent attacks of croup (rheumatic?) but there is no definite information regarding any other disease of childhood. When eight years of age he was examined by a medical man for admission to an educational charity, and was found to have heart disease, though such a condition was quite unsuspected before examination. At the age of twelve he ran a race, fainted, and became "cold all over." Animation was with difficulty restored, but next morning he did not appear much the worse of the accident. Except on this occasion he betrayed no sign of delicacy, and, but that his relatives were aware of his having heart disease, he was considered healthy till the age of fourteen, when he left home and entered into business. Though frequently overworked and exposed to cold, he continued in fair health for four years, having, however, on two or three occasions had severe "pain in the side," for which a doctor attended him. When eighteen years of age a medical man gave him permission to play cricket, and to this exercise he and his relatives ascribed his gradual decline in health.

Increasing dyspnœa and loss of strength forced him to abandon work about a year before death, since which his previous symptoms have progressively become more serious. He had never suffered from acute rheumatism. The patient's father died insane, and his mother of "consumption." Two paternal uncles and a paternal aunt died of heart disease between the ages of thirty-two and sixty. A paternal first cousin, who, with four or five brothers and sisters, has had rheumatic fever, suffers from heart disease. One maternal uncle died of heart disease, having had rheumatic fever, and another has had pneumonia. He has a brother and sister who have not had any serious illness.

The patient himself was fairly grown, but emaciated; with gray-blue eyes, light brown hair, a pale, somewhat livid countenance, and anxious expression, and when first seen, a patch of purpura over the left malar prominence. The pulse, when lying, beat 78–84 in the minute, was regular, small, but distinct; both pulses were equal. There was well-marked pulsation in the supra-sternal fossa, and on pressure behind the notch a distinct systolic impulse was communicated to the fingers. This visible pulsation, though chiefly systolic, had an undulatory character, as if partly diastolic. There was distinct but not excessive regurgitation into both external jugulars. The carotid pulse was normal, though, from the emaciation of the patient, somewhat more apparent than usual. The præcordial region to the left of the sternum was uniformly bulged forward, and the left sub-clavicular region was sunken, apparently owing, in a measure, to a somewhat greater prominence of the left than of the right clavicle. The apex beat was diffused and its impulse weakened. There was visible systolic pulsation from the second left intercostal space to below the nipple, most distinct in the second and third left spaces, and again, in a limited area, immediately above the nipple, but at the latter point the heart's impulse was not more distinctly felt than elsewhere. There was well-marked pulsation in the epigastrium.

On laying the hand over the præcordial region, and especially over the second and third left spaces, a harsh systolic and diastolic "frémissement cataire" was felt. The heart's dulness was increased transversely, and ran with great distinctness into the liver dulness. No increase of dulness from above downwards was detected. On auscultation to the inner side, and below the left nipple, close to the left edge of the sternum, there was heard a distinct systolic bellows murmur, lost on tracing it outwards towards the left chest. On continuing to auscultate along the left edge of the sternum a double murmur also became audible, increasing in distinctness as it was traced upwards, until, over the cartilage of the third left rib, and in the second left intercostal space, a harsh grating systolic and diastolic bruit had its position of maximum intensity. This murmur was also heard, but less distinctly, at a corresponding point to the right of the sternum; but, over the aortic area, the aortic second might, on careful observation, be occasionally heard, apparently healthy, though much masked by the coarsely grating murmur to the left. The murmur was not propagated into the large systemic arteries, but towards the left in the course of the pulmonary artery. His respirations when lying numbered 40–42 in a minute, and there was very violent action of the nostrils,—a phenomenon which it appears came on gradually, but had been much more apparent during the three months previous to examination, and seemed to be quite as evident when the patient was in bed as when he was upright. The subclavian regions expanded imperfectly, and he was apparently unable, from the rapidity with which the respiratory acts followed one another, to take a deep and full inspiration. Percussion resonance generally was not markedly dull, but was high-pitched. Vocal resonance was nearly normal, though rather increased than diminished. He had a short, hard, and frequent cough, with an expectoration principally mucous, but sometimes muco-purulen The respiratory murmur generally was very harsh, but withou any moist sounds. He had never had hæmoptysis. The tongu was clean, but the papillæ at its edge near the tip were enlarge and congested. His appetite was bad, and he suffered from flatulen eructations, but not vomiting. His bowels as a rule acted normall but latterly more frequently with semi-fluid evacuations of a somewhat dark colour. The liver dulness in the mammary line measure about six inches. The spleen was not satisfactorily mapped out He said he urinated freely, and had never had any symptom specially referable to this system, but I regret that I did not a first more accurately determine the character of his urine.

The skin presented nothing abnormal, except the small patch o extravasation, before alluded to, over the left malar prominence. The special senses were healthy; he never suffered from headache, and the intellect was clear.

The treatment adopted was:—Rest in the recumbent position, nourishing diet, with restriction of fluid, syrup of the phosphate of iron, and 5–7½ minims of the tincture of digitalis in a mixture every three to four hours. Apparently by this means his heart's action became slower and less excited, the supra-sternal pulsation for a time almost entirely disappeared, and when it returned did so gradually. The jugular pulse also appeared less marked, but his general distress was not alleviated.

In the beginning of June he had a thickly sown eruption of purpura over the forearms, wrists, legs, and ankles, which gradually faded. Such was his condition till about the middle of June, when another and more copious eruption of purpura made its appearance in the same positions, and to a less extent on the trunk, together with a feeling of weakness and pain in the lumbar region, and, though the quantity of his urine remained unchanged and was sufficient, it had a dark and smoky appearance. On June 16th it is noted to have had the following characters:—"Sp. gr. 1005, acid, smoky, albuminous to about one-quarter of the quantity of urine in the test tube; abundant tube casts, principally granular, with adherent renal epithelium; many of the casts are dark-coloured, others more transparent; a few fragments of blood-casts; red blood-cells; renal epithelium, and crystals of uric acid." He also complained of headache, became drowsy, and had some diarrhœa. Mustard counter-irritation over the loins, with an occasional draught of sulphate of magnesia, was followed by a disappearance of the lumbar pain and greater intelligence, but his urine continued as before and began to diminish in quantity. The reddening caused by the mustard was seen to consist of a thickly sown sprinkling of minute points of extravasation, resembling a fine purpura, except that the points had an arterial hue.

June 19th.—Urine very scanty; slight diarrhœa; no vomiting; purpura gradually fading. 10 P.M.—Called suddenly to see patient.

Urine almost suppressed; temperature 101°·8; pulse 120; respirations 60; skin dry; lungs as before. After a purge, and poulticing the loins, the most urgent symptoms subsided, and the eruption continued to fade.

June 22d.—Purpura again, in larger patches than ever, especially over the right wrist and elbow, on which side he lies; urine still very scanty; drowsy; slight diarrhœa; pulse 104; respirations 42.

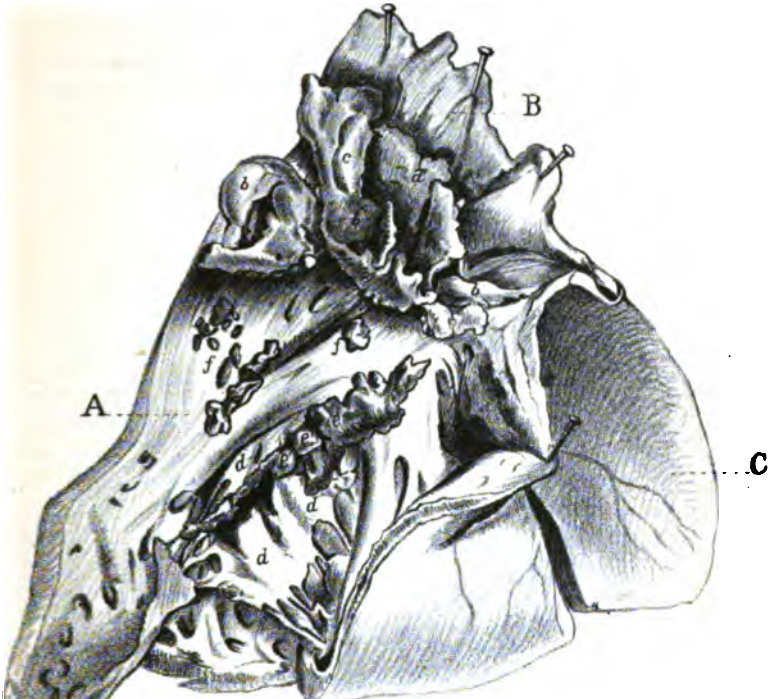
June 23d.—Urine, sp. gr. 1005.

June 24th.—About 7 A.M. began to swell about the right eye (he lies on his right side); at 11.50 A.M. the right eye was closed with œdema, the left becoming œdematous, and the forehead and scalp up to the vertex, especially towards the right side, was tense, painful, swollen, and pitted on pressure; no pitting over the sternum or tibiæ; pulse 102; respiration 42; urine as before. Was ordered a purge, and a diuretic mixture, containing digitalis, squills, spirits of nitrous ether, and liq. am. acetas, after which a larger quantity of urine was voided and the œdema disappeared. On June 27th he is noted to have had hæmoptysis to about one ounce, the blood being arterial and mixed with air, and the physical signs in the chest as before, with slight comparative dulness at the left base, but the extreme bases were throughout somewhat less resonant than elsewhere. The purpura was still persistent.

June 28th.—Heart's action regular, signs as before, pulse 108–114, regular, but very weak; respirations, 42; violent action of the alæ nasi; fæces fluid and dark; urine as before; drowsy. He died next day, having been conscious to within half an hour of death, when he is said to have become unconscious, and died without any evident increase in his distress of breathing, and without any sign of convulsion.

Necropsy, twenty-nine hours after death.—Body much emaciated. Purpura persistent on the arms, legs, and right side of the trunk. On opening the chest the lungs were seen retracted, their inner margins at the nearest point being fully an inch and a half apart, thus exposing the pericardium over the heart and large vessels. Pericardium smooth and without any trace of inflammation, recent or remote, its cavity containing about an ounce of straw-coloured fluid. The parietal layer, at a point opposite the heart's apex, finely mottled from an extravasation of blood; the visceral layer, also near the apex, having a similar extravasation. Heart, *in situ*, increased in size, especially transversely, the margin of the right ventricle, at a point opposite the axis of the conus arteriosus, being obtusely angular. The heart weighed, after being in spirit for some days, 9 ounces and 5 drachms. Right auricle dilated, with its closely-packed columnæ carniæ well marked. A warty vegetation springing up into its cavity, from the insertion of the anterior segment of the tricuspid valve at its inner extremity, and two others on its posterior wall, pass downwards and inwards through the auriculo-ventricular orifice, their lower extremities going to form part of a warty mass on the internal segment of the tricuspid. The broadest ends of the growths are in the auricle, the largest nearest the lumen, the other two between it and the wall of the auricle, that next the wall being smallest and flat. THE DIRECTION AND SHAPE OF SUCH GROWTHS PROBABLY INDICATES THE DIRECTION OF THE PREVAILING CURRENT OF BLOOD, AND IN THIS INSTANCE ARE PROBABLY SIGNIFICANT OF TRICUSPID REGURGITATION. The posterior surface of the anterior segment of the tricuspid, *i.e.*, the surface looking into the auricle in systole, is covered, especially along its margin, with warty growths. These vegetations combined encroach considerably upon the auriculo-ventricular space. Right ventricle is dilated and hypertrophied, but the former condition preponderates. All the segments of the tricuspid are studded with warty excrescences, more especially the anterior and internal segments. The former has a thickened and irregular margin, and the latter is in fact replaced by these growths. The posterior segment lying against the right wall of the cavity is also thickened by a warty deposit. The musculi-papillares are somewhat hypertrophied. The pulmonary semi-lunar valves are replaced by a distorted mass of warty clumps. The segment most to the right when the artery is laid open retains its shape most perfectly, but its margin is enormously thickened, and below and on all sides of it there are excrescences. The central segment consists of an enormous mass of warty growths, a large pear-shaped process from which stretches into the pulmonary artery, and when unsupported, hangs at right angles to its stalk, and probably occupied this position in diastole, and may perhaps to some extent have acted as a valvular prevention to regurgitation. Behind this segment, and overlapping to some extent the segment to the right, there is a flattened mass of excrescences, attached to and passing into the pulmonary artery for more than an inch, occupying, in fact, that portion of the arterial wall which must have been struck during each systole by the mass of the central valve. The segment most to the left consists, likewise, of a misshapen warty growth, about an inch in length and breadth, having a faint resemblance to a sigmoid valve, and with an irregularly diamond-shaped perforation; and here, too, a crescent of small granulations on the wall of the artery coincides exactly with the upper margin of this altered segment. On the anterior wall of the conus arteriosus there are scattered excrescences of various size and shape. Towards the apex of the ventricle, and attached to a slender chorda tendinea, there is a vegetation. The circumference of the pulmonary artery at the line of the valves is $3\frac{4}{8}$ inches, and above the valves $3\frac{6}{8}$ inches. A large partially decolorized fibrinous clot passed from the site of the pulmonary valves up to and into the two principal branches of the artery, on dividing which the clot was seen to occupy the entire lumen of each vessel. The clot was most decolorized towards the ventricle. A large clot of a similar nature was drawn

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION



J. Bartholomew Edin.

Heart of E. W. G. M. About two-thirds the size of the original.—A, right ventricle; B, pulmonary artery; C, left ventricle; *d, d, d,* tricuspid valve; *b, b, b,* distorted pulmonary semi-lunar valves; *c,* pyriform vegetation; *d′,* flattened mass of vegetations in pulmonary artery; *e,* large vegetation where probe passed into left ventricle; *e′, e′,* ends of vegetations passing into right auricle; *f, f,* scattered vegetations.

through the auriculo-ventricular orifice, and there were other smaller clots clinging to the chordæ tendineæ. The clots clung most tenaciously to the growths. The excrescences had a cartilaginous or gritty centre, with a soft circumference. Microscopically they appeared to consist of oval or rounded nuclei, in a granular, more or less opaque stroma, at places much impregnated by an earthy deposit. The portions examined did not present any appearance of a fibrous stroma. The sections cleared on adding dilute hydrochloric acid, and less so with acetic acid.

Left auricle normal. Mitral valves healthy, except that the shorter has two small warty deposits about the centre of its auricular aspect. At the margin of the other segment, and on the same aspect, there is a growth of the size and shape of a split pea.

Left ventricle normal. Circumference of the aorta at the line of the valves 2½ inches; above the valves 2⅜ inches. Semilunar valves competent and healthy. At the base of the centre segment there is a rounded cavity, with a minute warty excrescence at its orifice. On holding this part up to the light the septum is seen to be thin and translucent (a natural condition), and a large blunt probe passed into the above-mentioned small cavity tore through the partition, and presented itself below the internal segment of the tricuspid valve, the point emerging in a bed of granulations, the site of a large vegetation. At the origin of the aorta there is a trace of commencing atheroma. The endocardium in the right ventricle, especially in the neighbourhood of warty clumps, is thickened and opaque.

The coronary arteries, so far as they have been examined, are healthy. Muscular fibres taken from the right cavities of the heart had well-marked cross striæ. A few enlarged glands which lay between the pulmonary artery and aorta were dissected away, but I regret that the former vessel was not examined throughout.

The pleuræ were generally adherent over both lungs, presenting many old adhesions of varying length, those at the apex and base being shorter than those in the intermediate space. The cavities contained no fluid.

The left lung floated in water and crepitated uniformly, though not quite freely. At its extreme base it seemed to be in a state of chronic consolidation. The lung generally was of a firmer consistence than is natural, and contained circumscribed patches of induration. Below the pleura, at the base posteriorly, there were a few ecchymoses similar to those in the pericardium. The mucous membrane of the bronchi was reddened, and some tubes contained pus, others casts of inspissated secretion, but there was no evidence of breaking-down lung tissue anywhere. The right lung was in the same condition as the left, but rather firmer at the base, and contained in this portion a comparatively recent extravasation of blood about the size of a walnut. *Liver.*—The longest measurement of the right lobe was about 8 inches; of the left 5 inches.

The organ was firm to the touch, with a smooth capsule, and on section gross and microscopic, presented the appearances of "nutmeg liver."

The spleen was 7 inches long, 4 inches wide, firm to the touch, with a somewhat thickened capsule, a well-marked notch in its anterior border, and presented no distinct evidence of amyloid degeneration. The pancreas was firm, the connective tissue between its lobules increased, and its veins engorged. The left kidney was enlarged, its cortex increased, the capsule peeled off readily, and its surface was smooth, finely sprinkled with myriads of engorged Malpighian tufts, and had a few arborescent veins. The right kidney in its upper two-thirds was like the left; its lower third had a much more lobulated surface, and was separated from the remainder by a deep sulcus; the cortical and pyramidal portions of this were scanty, but the former was relatively increased. With the microscope many of the tubules were seen to be dilated, some bereft of epithelium, and others filled with blood or their own degenerated cells. The Malpighian tufts were intensely engorged. *Stomach.*—Mucous membrane engorged, with numerous ecchymoses, much thickened, and the follicles individually enlarged, which gave the whole a mammillated appearance. The small was of a darker colour than the large intestine, and the mucous membrane of both was passively engorged. The omentum contained a very small quantity of dark-coloured fat. The head was not examined.

GENERAL REMARKS ON THE CASE OF E. W. G. M.

The physical signs in this case were indicative of pulmonary obstruction and regurgitation, with dilatation or distension of the pulmonary artery, and also of tricuspid regurgitation, and probably, too, of a minor degree of tricuspid obstruction. The unusual nature of the case rendered its correct diagnosis a matter of interest, and though I had some doubt as to the true significance of the systolic apex bruit, the pulmonary lesion was satisfactorily determined.

The situation of the murmurs, and their propagation to the left in the course of the pulmonary artery, coupled with their want of propagation into the systemic arteries, and the state of the radial and carotid pulses, together with the impaired and diffused apex beat, the site of visible pulsation, and the fact of the aortic second sound being occasionally heard, apparently healthy, through the murmur, served to exclude aortic disease. I was, however, inclined to believe that there was some mitral regurgitation, but the failure to follow the systolic apex bruit outwards to the left seemed to negative such a conclusion, which the necropsy ultimately showed to have been erroneous.

Well marked as were the morbid appearances, and self-evident the agents in the production of the various physical signs in the present instance, the true etiology of the case is open to much discussion. Was the disease congenital, traumatic, due to scarlet fever, to disease of the kidneys, or, finally, to a combination of two or more of these possible factors, and influenced, it may be, by a rheumatic diathesis? Not to argue the point tediously, I may state shortly, that, from a careful study of the entire history of the case, and of the heart itself, it appears to me that the primary excitant to disease was scarlatina in a patient of rheumatic diathesis, and one of a family prone to heart disease; that this scarlatinal endocarditis had led to change in the valves, rendering them incompetent; that the altered segments themselves, from their disturbance of the blood current, and impact against various surfaces, tended to propagate disease; that the anæmic condition of the patient, possibly standing in some relation to his kidney disease, may have aggravated matters, and that finally rupture or displacement of one or more segments, perhaps a result of exercise at cricket, crowned the catastrophe, impairing still more the efficiency of an organ already labouring at great disadvantage, and precipitating the inevitable result.

This view of the causation of the pathological changes in the right chambers of the heart was endorsed by the Morbid Growths Committee of the London Pathological Society; but I am now inclined to attach more importance to that "rounded cavity" at the "undefended spot" in the ventricular septum, passed through which a large probe tore into the right ventricle. I consider it quite possible that this may have been a minute congenital communication, too minute to divert either side of the circulation, but quite sufficient to originate an irritative condition in its neighbourhood, or to promote such a condition otherwise originated. Latterly, the exuberance of vegetation in the right ventricle served to close completely any communication, if such had ever existed.

I shall conclude this portion of the subject by directing attention to a few points of interest in the present case.

When we consider the very serious obstruction at and regurgitation through the valves of the right heart, we cannot but be struck with the remarkable absence of dropsy into the subcutaneous tissue or serous cavities. It is feasible to suppose that when purpura appeared, the obstruction was so great as to cause that ecchymotic extravasation, and too great to allow of the gradual escape of the watery constituents of the blood, so as to produce anasarca; but this does not explain why, at a period prior to the occurrence of purpura, there was no or very trifling œdema. We can only conclude that the compensatory balance, established by hypertrophy of the right heart chambers, and the normal action of the left, to be discussed more fully afterwards, must have been very complete, and it is interesting to note that it was only during the last year of life that the patient occasionally noticed the œdema across the instep, and that it was during this year that a sensible increase of embarrassment in his condition was observed.

I would also indicate the unusual dyspnœa, little influenced by position, though somewhat increased by exertion, shown by the rapid respiration and violent action of the nostrils, as being almost diagnostic of his lesions, and resembling, in some degree, the symptoms usually ascribed to partial embolism or thrombosis of the pulmonary artery, a resemblance as real as it was apparent, for the huge dendritic clumps and altered valves, filling up the mouth of the vessel, were no mean substitutes for a clot, and (though this only applies to a period shortly prior to death), the discoloured clot passing through the pulmonary orifice, along the artery and into its main, and, doubtless also, secondary bifurcations, WAS a true thrombosis, and this again may have increased the retraction of lung apparent on raising the sternum. The condition of the lungs seen on post-mortem examination was of interest, in so far as they contained hæmorrhagic infarcta, and otherwise evinced the presence of hyperæmia. As the obstruction and valvular insufficiency existed at a point in the circulation before it enters the lungs, one might *à priori* have expected a less, in place of an excessive quantity of blood in those organs. The contrary is probably due, IN SOME MEASURE, to the absence of adequate *vis-à-tergo* to propel the blood through the arterial and venous radicles into the pulmonary veins, the direct cause of the inadequacy being regurgitation through the pulmonary semilunar valves, the spring-board action of which, when competent, being lost. In a case such as the present, the circumscribed patches of induration may also, possibly, be owing to the detachment of small granulations, or portions of such, and consequent embolism of some smaller branches of the pulmonary artery, or to coagula transported hither, after having been switched into form, by the valvular see-saw, at the pulmonary orifice. It is also worthy of notice that the angina experienced by the patient was distinctly limited to the right side, as we may conclude from the fixed agonizing pain at the lower end of the sternum, darting up to the right shoulder and down the right arm.

The tendency of the purpura and œdema of the face and scalp to gravitate towards the right half of the body was doubtless due to the position of the patient, and the latter (facial œdema, etc.) was probably of mixed renal and cardiac origin, as it disappeared when the flow of urine was increased; for here, as in many other circumstances, two factors, at least, were probably culpable—both kidneys and heart; the relief to the circulation afforded by an increased flow of urine, relieving likewise the obstructed venous flow into the heart, would materially lessen the tendency to œdema of the face and scalp; while, on the other hand, a more regular action of the heart might have been active at once in removing the œdema, and by relieving retrograde renal congestion, in favouring the secretion of urine.

(*To be continued.*)

ARTICLE VI.—*Case of Guinea Worm.* By JOHN DUNCAN, F.R.C.S.E., Surgeon to the Royal Infirmary, Lecturer on Surgery.

I HAVE thought that a short account of a case of Guinea worm, lately under my care, might be interesting from the rarity of the disease in this country.

The patient was a Swedish seaman, 41 years of age, called Matthias Wasterjren, and was admitted to the Infirmary on the 5th of November.

The history of the case, as ascertained by one of my clerks, Mr Macdonald, was as follows:—

Towards the end of last August, being at that time in Quebec, Wasterjren was for the first time annoyed by an itching sensation in the right foot, about two inches below the internal malleolus. At this point a pustule presently formed, to which he applied a plaister made from bees' wax. On removing the plaister after a day or two, he observed adhering to its surface a worm-like object, which he drew out to the extent of an inch and a half. By the captain's advice, it was fastened to a piece of stick, and during the voyage to this country, the plaister being still applied, he drew out about nine or ten inches of the worm, in portions varying from $\frac{1}{8}$ to $\frac{1}{2}$ inch at a time. The greater part of this was lost from the worm drying and breaking off. About a week before admission, when nearing the end of the voyage home, he for the first time felt severe pain in his foot. Redness and swelling soon extended round the back of the ankle, and an opening formed behind the external malleolus, which discharged a bloody fluid.

The patient refers the origin of his misfortune to a period nearly ten months before the disclosure of the parasite. At that time his ship was taking in cargo at Bushire, a port in the Persian Gulf. It was part of his duty to lay mats on the damp flooring of the hold, to prevent the goods from being soiled. These mats were brought from the interior of the country, and he was barefooted in doing his work.

On admission to the Infirmary wet dressings were applied to soothe the inflammation and to prevent the worm from breaking. Traction was daily made, and in the course of a week the parasite, 22 inches in all, was extracted.

The case is a typical one of Guinea worm, and presents no peculiarity. It was acquired in a well-known habitat of the Filaria medinensis, and in all probability Wasterjren experienced the same sensations as the Israelites when they suffered from the fiery serpents in a neighbouring locality. As occurred with him, the parasite usually appears near the ankles of those who work barefooted in damp localities, and variations in the part of the body attacked seem to be due to relative exposure, as when the water-carriers of India suffer from it about the shoulders and arms.

The period of incubation, so to speak, during which the worm grows, although the patient experiences no inconvenience, was of the usual duration, about ten months. The parasite was of medium length, for it varies from a few inches to three yards. It presented the appearances which are commonly described. It was grayish-white in colour, of the thickness of a piece of strong cord.

We were not fortunate enough to see the head, but at the other extremity was a rapidly tapering tail, about half an inch long. The whole worm is very elastic, and bears a considerable amount of traction without giving way. With the assistance of my house-surgeon, Mr Berry, I examined the parasite microscopically. From the cut section can be squeezed out a certain amount of a white semi-solid matter, composed of granular material. A tough, elastic substance can also be dragged out of the interior to a very considerable length before breaking. This we found to consist of longitudinal fibres, parallel, and very closely packed, having granular matter interposed between the fibres.

The envelope of the worm consists of two layers. The outer is very distinctly marked with transverse striæ. The inner is perfectly translucent and homogeneous. After removing from the interior what can be squeezed out, masses of fusiform cells, closely packed and arranged longitudinally, are seen here and there. These vary a good deal in size, and are finely granular.

On transverse section, it is seen that these granular cells occupy the centre of the worm, and fill up the greater part of the interior. They are doubtless the embryos, somewhat undeveloped, inasmuch as the portion of the worm examined was that nearest the tail, and the total length of the worm makes it probable that it showed itself before attaining complete maturity. The fibrous portion lies between this ovisac and the envelope, but is thicker at opposite thirds of the circumference. It appears to contain a large number of fine tubes, connected probably with digestive and circulatory purposes.

So far as I have been able to draw conclusions from clinical facts and microscopic observations, the course of events in connexion with the dracunculus seems to be this:—Male and female worms of extreme minuteness flourish in moist places in certain regions of the globe. They have the property, not peculiar to them, of retaining their vitality even after being dried, and become vigorous on re-exposure to moisture. Hence their prevalence in rainy seasons, and the cause of our patient's infection. The female, being impregnated, seeks a place in which to develop its young. It finds it (for the female alone has been then discovered) in the human body, which it probably enters by the sweat glands. It slowly develops, and having reached maturity, requires a means of escape for its progeny. The head, in which is situated also the aperture of the ovisac, protrudes, and now begin the troubles of the patient. More or less inflammation is set up; pustules, suppurations, fever, and even septicæmia may follow. The reason for this plainly is, that a means of entrance for septic action is afforded by the protrusion of the head. It is said that the breaking of the worm is a source of great danger. No doubt it is so, first, in so far as it renders extraction more difficult; and second, because any rough handling is calculated to injure the texture of the worm, to diminish its vitality, and to render it more prone to putrefactive changes. To preserve the worm alive is no doubt important, but only for these reasons, and cutting or rupture will not lead to more serious results than any other mode of destroying its vitality.

It appears to me almost certain that the extent to which putrescence may reach depends on the degree to which the tissues of the envelope retain their vitality, and the more or less noxious matters which may be brought in contact with it; while, on the other, the reaction on the part of the human tissues depends, as in all such circumstances, on the health of the patient and the freedom of drain.

THE BOSTON SOCIETY FOR MEDICAL OBSERVATION

Part Second.

REVIEWS.

Clinical Lectures on Diseases Peculiar to Women. By LOMBE ATTHILL, M.D., Master of the Rotunda Hospital, etc. Fifth Edition. Revised and Enlarged. Dublin: Fannin & Co., Grafton Street: 1878.

THIS little work continues to retain its reputation, and deservedly so, as a brief manual of gynæcology for the student. In the present day, when there is such a perverse tendency to increase instead of lighten the heavy burdens already laid upon every conscientious medical student, it were well if there were more imitators of the master of the Rotunda.

We think the author has wisely decided in the last two editions to continue to restrict the size of the volume. The student and practitioner has in Barnes, West, and many other works, a sufficiency of portly systematic works. But there is a decided deficiency in works of the nature of a compendium for the student, a place which this work supplies. Dr Heywood Smith has made an effort in this direction, but his work appears to us far too sketchy and imperfect to be of any practical value. The short account of illustrative cases interspersed throughout the work are extremely well given, and cannot fail to be specially instructive. While saying so much in favour of this book, we must be allowed to state that there is not a little in the volume from which we feel bound to dissent. We think there is far too much use made of the knife, caustics, and fuming nitric-acid, and that the treatment of the endometrium in general is greatly more meddlesome than is wise, necessary, or safe. Still, the author appeals with apparent confidence to the success following his practice; and he appears to meet with very few failures. We are almost tempted to think the women in Dublin must be differently constituted from those on this side of St George's Channel, since they are able to tolerate with safety such frequent and severe operative measures. We certainly lack the courage to imitate the author's heroic therapeutics.

In the chapter on the statistics of the operation of ovariotomy, we think the author is wofully blind to the interests of the operation and of his readers by not once mentioning the name of Keith, or referring to his extraordinary results. We feel assured that the author cannot be entirely ignorant of either, for Keith's recorded cases now amount to 280. And we would suggest, for Dr Atthill's consideration, that in a future edition of his work he should inform his readers of the fact, that the success of Dr Keith's practice is exactly twice as good as that of Mr Spencer Wells, splendid though that success be, or, to put it otherwise, the mortality resulting from Dr Keith's practice is exactly one-half that occurring in the practice of Mr Spencer Wells. We rejoice to see due credit given to Wells; but it is surely unworthy of any work written in the English language when dealing with ovariotomy, to ignore the existence of the most successful ovariotomist living. Had Dr Atthill included Keith's results, he would have been able to present his readers with a much more hopeful, and we think a more truthful, estimate of the chances of the operation, by showing that other surgeons could not only equal, but greatly surpass Mr Spencer Wells in obtaining successful results from it. But with all its faults the book is worthy of its place as a valuable compendium of the more common diseases of women in a form fitted to guide the student and junior practitioner in the study of the subject.

The Influence of Posture on Women in Gynecic and Obstetric Practice. By J. H. AVELING, M.D., Physician to the Chelsea Hospital for Women. London: J. & A. Churchill: 1878.

WE have read this work with care from beginning to end, and we are forced to confess that we do not think it will add lustre to the reputation of its author. The effects of posture in modifying the condition of the pelvic organs in health and disease are throughout the work monstrously overdrawn and exaggerated. It is to our mind a mournful example of misplaced energy, and we regret very much that when there are so many fields in gynæcology to occupy with advantage the talents of all its cultivators, attachment to a hobby should have led such an able gynæcologist as Dr Aveling to waste his time in writing a book on such a subject. A paper or two, or a pamphlet even, might have been profitably devoted to the subject. But its requirements are not equal to a volume of 180 pages. Consequently the author has been tempted to enlarge, dilate, and repeat himself in a wearisome manner, as well as to make groundless assumptions, and drag in a great mass of entirely irrelevant matter, so as to swell the proportions of the volume. The best part of the work is contained in the early chapters, where the inconveniencies and radical defects of the ordinary forms of chairs and couches are detailed and denounced. The author, with considerable reason, would recommend the chair to be abandoned for the future, and thinks we ought rather to squat on carpets or divans as the Turks do.

All sorts of pelvic and vulvar complaints are demonstrated to be the result of postural influences, from the various prolapses to pruritus and ovarian neuralgias. Patients are in great danger of suffering from pelvic hyperæmia (or, as our author will have it, hyperemy, though we certainly do not admire his orthography any more than his science), if they venture to lie on their backs for any length of time. They must, if they are wise, and would avoid a whole catalogue of evils, be everlastingly changing from side to side, or lying in the prone position.

In treating of the evil results likely to arise in the vulva from resting on the back, Dr Aveling makes the astounding statement: "Those who adopt the dorsal reclining position during the greater part of the day are equally liable to be affected by disorders following a distended condition of the bloodvessels. They are, perhaps, even more subject to consequent mischief, as they are deprived of the remedial counter pressure of the organ upon which the parts of those sitting rest." In the name of wonder what is meant here? Does Dr Aveling mean that patients ever sit on their vulvæ? From the connexion one would infer such to be his meaning. It would be interesting to see the experiment tried! There occur to us many anatomical reasons that render it surely a difficult posture!

After this one is not astonished to find vulvar, vaginal and uterine leucorrhœa, and dysmenorrhœa directly traced to postural causes, or that hæmatomera is also due to the same potent influence. We had thought something more decidedly obstructive to the escape of menstrual blood than postural change was needed to produce the latter condition. But it seems we were wrong.

We are glad to be able to agree with Dr Aveling, in holding that the position of the fœtus *in utero* is mainly determined by gravitation, but we cannot agree with him in regarding uterine pressure upon the renal veins as so frequent a source of the nephritis of pregnancy, and consequently of puerperal convulsions. The author must first prove that such pressure is ever possible. He also overstates very much the effect of upward pressure of the gravid uterus upon the functions of the stomach and diaphragm.

The most valuable part of the work is the historical portions on the various postures adopted at different times and in different countries as the most suitable during parturition. This is really of considerable archæological interest, even though we cannot regard it as specially germain to the scope of the work, and must look upon it rather as agreeable padding, introduced to make the proportions of the volume swell out.

From our author's observations on rupture of the vagina and uterus, it is evident he has not studied the causation of these lesions, or has studied them with very indifferent success, or else at this time of day he would never have written of their causation as follows:—"Of all of them, however, distorted pelvis is the most common, for the fœtal head, urged by violent pains, presses for a long time the wall of the parturient canal against the points of obstruction until its structural life becomes impaired, and it at length gives way." This extract contains an expression of ignorance of the subject which we had considered hardly possible in an English accoucheur of distinction after the labours of Bandl, Litzmann, Macdonald, Duncan, and others in this department. When the author condescends to turn his attention to this subject, he will learn that pressure of the head against the pelvis has, as a rule, wonderfully little to do with such ruptures, and that their mechanism is well understood, and very different indeed from that assumed by him.

We are glad to find Dr Aveling of opinion that posture can never be depended upon to remove the placenta.

In this view most gynæcologists will agree with him, and further, will be inclined to regard as a lunatic any person who would suggest postural treatment as suitable for removal of the placenta.

Dr Aveling indulges throughout this work a fancy for change in spelling and nomenclature, which to our mind is extremely disagreeable, as its tendency is to break more and more the connexion between these terms and the languages from which they are derived, and thus at once to pain and to puzzle the classical student, whose comprehension of medical terms is so largely facilitated by the ready detection of the origin of the word conveyed by the eye, even when not by the ear also. By the change in spelling there is no corresponding advantage which we can see that can accrue to the mere English scholar, and that is the only *raison d'être* for such alterations. Thus, instead of œdema, Dr Aveling writes edema, and instead of hyperæmia, hyperemy. Other unnecessary departures from classical forms that grate most disagreeably on the ear of the student of classical tastes and acquirements, as well as disgust the eye, are such terms as prolapsion for prolapse, gynecist for gynæcologist.

The latter term is objectionable for other reasons. Gynæcologist can only be translated as a person who devotes himself to the study of the female economy. But gynecist, if literally translated, would mean a "womanist," which conveys no idea whatever of the thing meant—a circumstance which ought to be fatal to the applicability of any term.

But we must bring our remarks to a close, by stating that we are sorry to say that we cannot regard the work as worthy of its author, or likely to be of substantial advantage to the progress of gynæcology.

Diphtheria: Its Nature and Treatment, Varieties, and Local Expressions. By MORELL MACKENZIE, M.D. Lond., Senior Physician to the Hospital for Diseases of the Throat and Chest. Pp. 102. London, 1879.

DR MORELL MACKENZIE has reproduced, in a condensed and well-arranged form, the essence of some of the best recent writings on diphtheria; and has also given a good selection from their references to contributory sources of information. He has likewise stated, though not in much detail, the results of his own experience of the disease. Speaking in general terms, we may say that his style is clear, and his matter good and cleverly compacted. Considering, however, that there is very little matter which can, from any point of view, be regarded as original, and seeing that he has not produced a complete compendium of the present state of knowledge of diphtheria, we cannot but look upon the opening paragraph of the preface as involving a statement which is not correct, and which is expressed in gratingly self-complacent language. It is in the following words that Dr Morell Mackenzie jauntily begins his slim, smartly-bound, five-shilling tract of 102 pages of large print:—

> "Nearly twenty years having elapsed since any English work has appeared on the subject of diphtheria, and medical views as to the nature and treatment of the disease having undergone considerable development during that period, it has appeared to me that a short sketch of the affection from one who has had considerable opportunities of studying it might be of interest and possibly of use to the profession."

We need not formally dispute the truth of the statement that no English work on diphtheria had appeared for twenty years till Dr Morell Mackenzie's tract was published about a month ago. It is enough to allude to one of several admirable and recent works on this subject with which the profession is acquainted. It is enough to ask whether certain writings of Dr George Johnson do not constitute a work—a masterly work—on diphtheria, published within the last twenty years?

Strange to tell, the only reference made to the writings of Dr

George Johnson on diphtheria is contained *in a footnote* at page 79! The footnote is as follows:—

"Most physicians in this country, who have had the opportunity of studying the disease in the wards and in the dead-house, now regard croup as a form of diphtheria. At an early period Dr George Johnson (*British Med. Journal*, 19th Feb. 1870) maintained the identity of croup and diphtheria."

For an author, who offers his "work" as a boon to the profession, and announces it with a flourish of trumpets as the first on diphtheria which has appeared for twenty years, to mention in this obscure and incidental manner the name of Dr George Johnson, is absurdly bold. Other writers are thus noticed in the text of the page from which we have just quoted the footnote:—

"Whilst the term croup had been strictly applied to the peculiar inflammation of the larynx, many laryngeal affections in which a shrill cough or a crowing inspiration was present had been described as varieties of croup; and the terms 'false croup,' 'spurious croup,' and 'catarrhal croup' were in common use. These affections, which are still often mistaken for true croup, had still farther warped the judgment of the profession as regards the true nature of laryngeal diphtheria. Near the termination of the great epidemic of 1858-62 in this country, the identity of the two affections was, however, advocated by the late Dr Hillier (*Medical Times and Gazette*, 26th April 1862); and in my Jacksonian Prize Essay (1863) I maintained the same view. The doctrine of identity has subsequently been urged with great earnestness and ability by Dr Semple; and his writings must have exercised considerable influence in this country."

Dr Morell Mackenzie's tract is divided into eleven chapters, viz:—I. Definition and History; II. Etiology; III. Symptoms; IV. Paralyses; V. Diagnosis; VI. Pathology; VII. Prognosis; VIII. Treatment; IX. Laryngo-tracheal diphtheria; X. Nasal diphtheria; XI. Secondary diphtheria.

The author's definition of diphtheria is clear, but it is too prolix, being rather a condensed *description* of the disease than a *definition.* The historical sketch is, with some slight exceptions, well drawn. We are told that "an accurate description of diphtherite" was given by Dr Abercrombie in a work published in 1828 (*Pathological and Practical Researches on the Diseases of the Stomach*). The passage referred to might, with great advantage, have been quoted, particularly as recent authors have, like Dr Morell Mackenzie, only referred to it in general terms. It is by no means an "accurate description" of diphtheria; but it nearly approaches accuracy; and coming at so early a date from so close an observer, it merits a place *in extenso* in the English history of the disease, whenever that may be written. We make no apology for here reprinting Abercrombie's description, now fifty years old:—

"Another modification of disease in the mucous membrane of these parts is that to which the French have given the name of 'diphtherite.' It does not appear to be a common affection in this country, but I have had opportunities of seeing it at various times, particularly in the summer of 1826, when it was frequent and fatal in Edinburgh. It is an epidemic chiefly affecting children. The first symptom is a deep redness of the tonsils or velum, without swelling or ulceration, but with the formation of aphthous crusts, which are generally of a pure white colour. When these crusts either are removed or drop off spontaneously, the membrane beneath is seen to be deeply red without breach of surface, and the crust is reproduced in a few hours. We find usually excoriations or very minute ulcers along the inner membrane of the cheeks and lips, and a painful excoriation of the membrane of the nose—often sponginess and bleeding of the gums, and in some cases, the whole mouth becomes inflamed in a manner resembling the effects of mercury. There is in general little fever, but great prostration of strength, and often a diseased state of the whole system, in which blistered parts run to gangrene, and even the slightest scratch is apt to assume an ulcerative action with some vesication and inflammation of the neighbouring lymphatics. The disease is in some cases a slight affection confined to the fauces, but in others, it evidently extends along the œsophagus, and to the stomach, producing tenderness of the epigastrium and excoriation about the anus. The most formidable termination of it was that in which the affection extended to the larynx, when it was rapidly fatal, with all the symptoms of croup in its most intractable form. In the epidemic of 1826, I saw no case fatal except when the disease extended to the larynx; but of those patients in whom the larynx was distinctly affected, very few recovered. The disease was often protracted for several weeks, and in some cases, which had previously been going on in a mild form, the fatal affection of the larynx took place so late as the fourteenth day. When this termination did not occur the affection seemed to run through a certain course, over which medical treatment had little control. It was in general necessary to support the strength—frequently by wine in considerable quantities—and benefit seemed to be obtained from the free use of vegetable and mineral acids, careful regulation of the bowels without strong purging, very free ventilation, and frequent sponging of the body with tepid vinegar and water. When there was much affection of the stomach, the bismuth appeared to be useful, or lime-water, with small opiates. Gently stimulating or acid gargles were in some cases beneficial. Dr Hamilton recommends the acetate of lead both internally and in gargles. M. Bretonneau trusts chiefly to the free use of calomel, and he touches the fauces by means of a sponge with a mixture of equal parts of honey and hydrochloric acid. When the larynx is affected the danger is extreme, for the disease does not in general bear bleeding, and blisters are apt to run to gangrene. The free use of calomel seems to be the only practice that is capable of arresting it. One of the most satisfactory recoveries that occurred to me under these circumstances was in the case of a child of fourteen months. He took in the first twenty-four hours twenty-four grains of calomel, combined with occasional opiates, and a diminished quantity for a day or two after."

"The disease has been described by Dr Hamilton in the *Edinburgh Journal of Medical Science* for October 1826; and at great length by M. Bretonneau in a work—*Des Inflammations Spéciales du Tissu Muqueux.* The error of the French writers consists in having, from their zeal for generalizing, considered the affection as synonymous with croup."

Dr Morell Mackenzie's notice of Dr Francis Home's famous shilling pamphlet is decidedly misleading, and credits it with an amount of accuracy to which it has no claim.

"At length," says the author, "the attention of the profession was fully called to the peculiar characteristics of diphtheria by Dr Francis Home, who in 1765, under the name of croup, described an acute affection of the larynx and trachea coming on insidiously, attended with the formation of a membrane in the pharynx and air passages, and often causing death by suffocation. Home appears to have been the first to notice the quick, weak pulse which is often present in the disease."

Dr Francis Home did not describe diphtheria under the name of croup, nor, as is constantly asserted, did he really describe, in a distinctive manner, the specific disease which we now know as diphtheria. In our number for September 1876, Sir John Rose Cormack gave Dr Home the exact amount of merit due to him in the following paragraph:—

"Most French physicians of the present day, adopting the views as well as the nomenclature of Bretonneau and Trousseau, apply the names *croup* and *vrai croup* (true croup) to distinguish it from the *faux croup* (false croup), the non-membranous affection in which spasm with stridulous breathing is the predominating feature. Many of them in this way include together the non-inflammatory spasmodic affection (laryngismus stridulus) and the inflammatory affection (laryngitis), which latter is nearly always a stridulous affection in infants and young children. It is the 'inflammatory croup' of various English authors, and was represented by Francis Home as a stage of membranous croup (diphtheria). Home, in his curious little monograph, describes only eight cases, and of these, five are tracheal diphtheria, and three laryngitis. As no false membrane was seen in these three cases, he—like many of his successors—jumped to the conclusion that the false membrane was absorbed, or its formation prevented by the treatment."

Dr Morell Mackenzie's chapter on *treatment*, considering its brevity, is very good. A proper protest is entered against general or local bleeding, and also against the now nearly obsolete French practice of employing caustics and other irritating applications in laryngo-tracheal diphtheria. The first paragraph enunciates the principles upon which the treatment of diphtheria ought to be based. "The symptoms,' says the author, "are due in part to a general blood-infection, and in part to a local specific inflammation. Each of these pathological processes appears to run a cyclical course; in each, the deviation from health is only a temporary one, which, after lasting for a variable period, shows a tendency to subside, and to terminate in the re-establishment of normal action. Each process, however, is attended with its own special danger, which may lead to a fatal issue before the return to health. As regards the general condition, it is the *intensity* of the morbid changes which constitutes the great danger: locally, the risk lies in the occurrence of the exudation in a perilous situation."

Excepting that we do not consider that *recuperative* is exactly the proper term to apply to iron and quinine as remedies in diphtheria, we entirely agree with all that Dr Morell Mackenzie says of them in the following passage:—"Of the *recuperative* agents, iron and quinine are the most entitled to consideration. Of these, iron is undoubtedly the most useful, and the profession is indebted to Dr Heslop of Birmingham for proving its value in diphtheria. It should be administered frequently, and in large doses. Thirty minims of the tincture of the perchloride may be given to adults every two or three hours, and proportionate doses to children. It is well to combine it with glycerine, and, of course, it must be diluted with water. The general effect of the drug is often extremely favourable, and its local influence is equally well marked, the soreness and pain in the throat being considerably relieved after each dose. The double effect is more surely procured by prescribing one of the persalts in preference to the less astringent protosalts. Quinine is occasionally required in the course of an attack of diphtheria. The special indications for its use are headache, with high temperature, vomiting, and the symptoms of septic poisoning. In such cases the drug should be given in full doses, and should not be persisted in if benefit fails to result in thirty-six, or at the most, in forty-eight hours. As a rule, however, quinine is more useful after the more serious symptoms have abated, when it may be very suitably combined with iron and a mineral acid."

The way in which Dr Heslop's name is used in the above passage, indicates that Dr Morell Mackenzie is not so well up in the literature of his subject as might be imagined from a cursory glance at his show of footnotes. Dr Heslop is a reliable clinical authority; and it is satisfactory to know that he has confirmed an opinion which was generally adopted by the profession in France, many years before he wrote the paper in the *Medical Times and*

Gazette for 29th May 1858, which is cited in a footnote as authority we presume, for the statement in the text. Long before 1858, Trousseau was in the habit of stating in his clinical lectures that cinchona and iron were the two pharmaceutical agents on which he principally relied in the general treatment of diphtheria. He had proved the value of both drugs; and his proof has since been corroborated by the best clinical observers in all countries. Trousseau always held to the same opinion. In one of his lectures, contained in the Sydenham Society's translation of the last French edition (1869), he says:—"I generally give the powder of yellow cinchona in doses of from one to two grammes in a cup of *café noir*, the object of the coffee being to mask the bitterness of the drug, and to facilitate its digestion. For those who have a repugnance to this preparation of bark, and also when I wish to obtain a more speedy effect, I substitute sulphate of quinine for the powder of cinchona, administering it also in a similar manner in coffee. I am, likewise, in the habit of prescribing the wine and syrup of cinchona. The preparations of iron which I prefer are those which are the most soluble, such as the perchloride, the citrate, and the tartrate."

Edinburgh's much-lamented James Begbie—the father of the late Warburton Begbie, an equally lamented and an equally able physician—was convinced of the special value of iron in diphtheria. His opinion he stated in a paper on "Diphtheria and its Sequels," which he read before the Medico-Chirurgical Society of Edinburgh on 2d April 1862, and which forms part of his classical volume published in the same year, entitled *Contributions to Practical Medicine*. The following paragraph from that work is as valuable a guide to the practitioner to-day as when it was penned sixteen years ago:—

"My experience," says the late Dr James Begbie, "leads me, in the treatment of the general disease, to place most reliance on remedies calculated to sustain the system during the currency of a disease of asthenic character. The free use of wine and brandy has been clearly indicated in all the cases I have seen, even in an early stage of the disease: quinine I have also seen employed with advantage; and recognising the value of iron in the form of the muriated tincture in erysipelas and in severe forms of scarlatina, I have satisfied myself that its persistent use during what may be called the poisoning stage of diphtheria has had a salutary influence. As a remedy also in those peculiar paralytic affections which so frequently supervene during the convalescence from the disease, or even after recovery from it has been established, it is equally valuable. Hitherto, I have seen no case of diphtherial paralysis which has not completely recovered under the administration of this preparation of iron, either singly or in combination with nux vomica."—(Pp. 262–263.)

The author's views regarding the nature of laryngeal diphtheria, and its identity with the croup of many English physicians, are essentially those of Bretonneau as somewhat modified by later clinicians. They are the same which have been advocated in this Journal in a series of articles by Sir John Rose Cormack, of Paris, and also in a paper by the late Dr Turner, of Keith. They are views, therefore, opposed to those recently maintained in our pages by Dr John Moir, of West Ham.

When the now daily expected Report of the Committee of the Royal Medical and Chirurgical Society of London has been issued, there will probably be a call for a complete English treatise on diphtheria. An exhaustive work up to date, in plan somewhat like the French treatise of Sanné (reviewed in this Journal March and April 1876), would be very useful, and would be well received.

Total Abstinence: A Course of Addresses. By BENJAMIN WARD RICHARDSON, M.D., F.R.S., M.A., LL.D., F.S.A., Fellow of the Royal College of Physicians, and Honorary Physician to the Royal Literary Fund. London: Macmillan & Co., 1878: pp. 180.

DR RICHARDSON is so well and favourably known to the profession by his previous writings, that when he appears as an advocate for total abstinence, his statements, his reasonings, and conclusions will be received with respectful attention. The tone of his book is scientific, reasonable, and free of that imperious and intolerant exaggeration which most supporters of the temperance cause are, as a class, prone to indulge in. We have read his addresses with care, and have no hesitation in saying, that they are eminently fitted to enlighten and impress all who approach the subject treated of without prejudice, and hoping to have their minds enlarged and encouraged as to the best mode of overcoming the greatest obstacle which lies in the way of social improvement in the present day. As we had an opportunity lately — while reviewing the work of Dr Bucknill—of considering some questions connected with intemperance, it seems unnecessary to enter into details on this occasion; but we shall mention one or two results at which our author has arrived, and which seem worthy of being specially noted.

He is very decided as to the supreme importance of abstinence from alcohol, in every shape, being complete, if those who desire to reform their habits really expect to succeed. It is only when the last remnants of the poison have been eliminated from his system that the individual is sufficiently *himself* to exercise self-denial or to feel the necessity for it. So long as the habit of imbibing it, in any form, continues, he is at a disadvantage both mentally and bodily.

Dr Richardson is quite opposed to the process of *gradual* reduction of the allowance. It only protracts the necessary season of trial, and renders a successful and permanent cure almost impossible—certainly very improbable. And he has never, in a very large experience, seen any of those evils, those disastrous consequences, which even medical men so often prognosticate, from an abrupt and sudden withdrawal of stimulants. He adduces the experience of prisons on this point as completely corroborative of his opinion. When a culprit enters the portals of such an institution he is at once deprived of every stimulant. Are any instances of injury from such treatment ever met with? Do they fall into consumption, or insanity, or palsy, or delirium tremens? If they did, would there not be a ferment of indignation throughout the country? But what is the fact? These enforced abstainers become the healthiest of the community, no one being able to point to a single definable serious disease as due to the deprivation of alcohol.

We earnestly recommend Dr Richardson's scholarly and well-considered addresses to all who wish information and guidance in respect to a social question of pressing importance.

Dialogues on Drink. By B. W. RICHARDSON, M.D., F.R.S., Scottish Temperance League. Glasgow: pp. 187.

WHEN a physician of high professional reputation and accomplishments, like Dr Richardson, advocates, with strong conviction, the cause of abstinence, we regard it as a sign that victory awaits him and his coadjutors at no distant period. We have read this well-written work with much satisfaction. Shunning the ordinary imperious style of that kind of literature, it makes no attempt to carry its positions, *vi et armis*, by holding up all opponents as weak-minded, ignorant, self-indulgent slaves of the drinking customs of the country, but rather endeavours to introduce a subject, somewhat hackneyed, to prejudiced readers, by a calm, fair, reasonable contemplation of it from every side and in every aspect. Three educated friends—a London physician, an eminent lawyer, and the wife of the latter—spend several days in autumn in an agreeable country mansion, and embrace the opportunity of having a good many leisurely and frank conversations. These are so well managed as to recall forcibly to our mind the *Friends in Council* of Sir Arthur Helps; and we doubt, indeed, if these famous dialogues—at times a little tedious and even pedantic—furnished more agreeable reading than the aforsaid conversations of Physicus, Juridicus, and Helena. We cordially recommend the brochure as reliable in its information, cleverly, adroitly put together, and eminently fitted to promote the cause of Temperance.

On Giant Urticaria. By J. L. MILTON, Senior Surgeon to St John's Hospital for Diseases of the Skin, etc. London: Harrison & Sons: 1878.

WE notice this brochure of Mr Milton's, which is now reprinted at greater length from a paper which originally appeared in this journal, because a peculiar form of disease is described in it which does not so far seem to have attracted much attention, though in its milder varieties not of extreme rarity. The disease consists essentially in the development, on some part of the body, of more or less rounded, usually, though not always, hard swellings, varying in size from a walnut or thereabout to that even of the fist. The region of the eyes is a common locality, as is also such fleshy parts as the hip or thigh. They not unfrequently appear first in the night, attain slowly their full development, and as gradually disappear. In colour they may vary from the natural skin-colour to a pale pink, or even a reddish hue, as is shown in the chromolithograph of the most severe of Mr Milton's five cases. The mucous membranes are often similarly affected, as that of the throat and nose and the surface of the tongue. In one instance, what Mr Milton calls herpes, appeared on the prepuce; it might, however, have equally well been termed urticaria bullosa. Subjective sensations vary; in some the itching and tingling were extremely severe; in other cases, again, the only unpleasantness connected with the disease arose from the feeling of tension produced by the swellings. Extraordinary chronicity characterized all the cases. Fresh outbreaks occurred at intervals of variable length, years even elapsing, till it finally waned, as is met with in ordinary urticaria. This giant form was associated with some other skin disease, notably with eczema, but also in one instance, with psoriasis, and in another with pityriasis rubra. We are much interested in this latter connexion, since we recently met with similar swellings in a patient suffering from pityriasis rubra under our care, which, like those described by Mr Milton, were hard, indolent, of a pale pinkish hue, and were accompanied by some degree of itching and tension. In another case which came under our notice, the swellings were limited to the eyelids and parts round the orbit. The lumps appeared at intervals of about a fortnight, lasted three days, during which time the eyelids were either entirely closed, or could be opened only with difficulty. The patient, a lady, suffered from chronic rheumatic arthritis, but was not the subject of any other cutaneous affection. Mr Milton refers to Professor Graves' account of Dr Oppenheim's notice of what is called the Turkish disease, in which painful globular swellings appear during the night on the limbs. These are neither discoloured nor red, neither are they hotter than other parts, and though Mr Milton does not think so, seem to be identical, as far as can be determined from the quotation, with this giant urticaria. There is a form of urticaria me with in Australia, and known popularly as "the swelling blight, supposed to be caused by the sting of some poisonous fly, which closely resembles Mr Milton's giant form. It also comes on during the night, and in the morning the lips or eyelids are seen to be enormously swollen and stiff, while in many cases they itch or tingle. The swellings are dense but not hard, not painful to touch, but very disfiguring. They usually attack females. During the hot weather of last midsummer we met with two instances of this same form of urticaria in the neighbourhood of Edinburgh. In both cases the lips and mouth were attacked, but the swelling disappeared spontaneously in a couple of days, and affected no other region. The term "giant urticaria" seems a good one, as it adds nothing new to our terminology, and very well describes the general features of this singular form of disease. Treatment must be empirical, as the true nature and cause are unknown, and Mr Milton has not added anything to this. The publication of his cases and the illustrations will probably elicit some further facts.

A Hand-book of Therapeutics. By SYDNEY RINGER, M.D., Professor of the Principles and Practice of Medicine in University College, etc. Seventh Edition. London: H. K. Lewis: 1879.

WE are glad to see that this most valuable treatise on Therapeutics has reached a *seventh* edition. It is unquestionably the ablest work on therapeutics which we possess in our language, and one which should be carefully perused, not only by students, but also by practitioners.

Having on several occasions spoken most favourably of Professor Ringer's work, it is sufficient to draw the attention of our readers to this new edition which has just been issued. The seventh edition contains chapters on the tongue, the pulse, the skin, and the temperature, with the indications they afford in treatment. These additional chapters are well written, and will render this edition even more valuable than any of those previously published.

Ringer's Therapeutics is a work so well known that it needs no commendation from us to ensure it a wide circulation.

The Science of Life. London: J. BURNS: 1878.

THE intention of this pamphlet is of the best. The author has evidently thought much and earnestly on the subject he treats of; and we feel inclined to agree in a great measure with the suggestions he makes for lessening the evil. The evil sought to be remedied is the habit of masturbation among the young. The remedy suggested is that parents should enlighten the minds of their sons as to the true uses of their reproductive organs, and the evils resulting from self-abuse. It is a difficult subject, but we can conceive no possible harm resulting to boys from a little *wholesome* knowledge on these matters, when they are certain, too soon, to get plenty of *unwholesome* knowledge of a similar kind from their school companions. The following rules are given as aids to the abandonment of bad habits, and to the stoppage of involuntary emissions:—

I. "Perfect cleanliness of the genital organs; if possible, a cold bath every morning." With reference to this rule, we are of opinion that circumcision would aid in lessening masturbation by ensuring cleanliness.

II. "Abundant, but not exhausting, exercise of the arms and shoulders, quite as much as of the lower limbs, since if these latter are exclusively exercised, too much blood is directed to the generative organs."

III. "Strict moderation in eating and drinking; avoidance, as far as possible, of late suppers, rich, greasy, or highly-seasoned dishes, and of meat and eggs, except in small quantities."

IV. "Abstinence from tea, coffee, and alcohol in every form." There are four letters from Mr Ruskin to the author, appended to the preface, which are of a singularly unpractical nature.

We heartily recommend this pamphlet to parents and those in charge of the young.

Introductory Address at St George's Hospital, October 1*st* 1878, *on Specialism in the Medical Profession.* By THOMAS T. WHIPHAM, M.B., Physician to the Hospital. London: Longmans, Green, & Co: Printed by Request.

THIS is a sensible, well-written address, likely to be useful to the youthful audience who heard it. While showing the advantages of specialism in some respects both to patients and to students of medicine, he points out very forcibly the extreme importance of every young man being educated all round, and even familiar with every department of his profession, before he presumes to set himself forth as a specialist. The author is evidently a gentleman of classical tastes, and we can fancy him a little annoyed by two *errata* which had escaped notice in correcting the proof. For *requiescat* in page 5, read *requiescant;* and for *rem* in page 47, read *remque.*

A Manual of Dental Anatomy, Human and Comparative. By CHARLES S. TOMES, M.A.

A Manual of Dental Mechanics. By OAKLEY COLES, Esq.

Mechanical Dentistry—a Practical Treatise on the Construction of the various kinds of Artificial Dentures. By CHARLES HUNTER, Mechanical Dentist.

Elements of Dental Materia Medica and Therapeutics, with Pharmacopœia. By J. STOCKEN, L.D.S.R.C.S. Eng.

IT is impossible to review the acquaintance possessed on the subjects of dental anatomy and pathology along with mechanical dentistry, or discuss the merits of many works recently appearing in connexion with these matters, without recognising three important periods in the history of this department of surgery. The first was that during which no special qualification whatever was demanded or even thought necessary for the practice of dentistry. The second was characterized by the existence of the diploma in dental surgery, instituted by the Royal College of Surgeons of England some twenty years ago. While the third has been only within the last year inaugurated by the passing of the Dental Bill of 1878, whereby every one practising dentistry is required to be registered as qualified to do so, and a systematic education, adequate examination, and a license to practise are made imperative on all adopting this branch as a profession.

In this way any such works as those now before us assume an augmented interest and value. Special and extra information will naturally be demanded where a special diploma is to be granted, and works devoted to the particular subject may be expected to multiply. Much of Mr Tomes's volume may be considered as extraneous to the subject of dental anatomy as required for ordinary practice. But if it were nothing more than as a matter of accomplishment, it is well that the practitioner, devoting himself to the treatment of one particular organ or set of organs in the human body, should be acquainted with them as they exist in the lower animals. In this way Mr Tomes has supplied a large fund of scientific information.

It is, however, to his investigations and researches into such subjects as the development of the human teeth that the most immediate interest will be attached by the dental student. Here many of Mr Tomes's views are very much the same as those of the late Professor Goodsir. This, no doubt, he might be inclined to deny—since his description of the facts, as they occur, varies from that of the professor. At the same time, however, the main facts themselves remain very much as they were. The labours of the continental histologists since Goodsir's day have elaborated and elucidated many points overlooked by him. The primitive dental groove and its papillæ have, doubtless, been more perfectly described, but their existence cannot be discarded. The involution of the epithelium, its function, and its purposes in the economy of the growing tooth; the genesis, development, and increase of the papilla and the containing structures, with many other matters, are more fully known to and admittedly more accurately described by Mr Tomes; but Goodsir was wonderfully near the mark, as the recent articles on the subject by his successor, Professor Turner, very well substantiate. Thus much seems but fair to be said in reviewing a volume such as that now under consideration, since the idea seems to prevail in some quarters that Goodsir's views are now effete and altogether erroneous. Thus, in the number for September 1878, of a dental periodical, the *Monthly Review of Dental Surgery,* we find it stated that "that theory (Goodsir's) was in June 1876 altogether obsolete," and that "from 1874 Mr Charles Tomes, in his lectures at the London school of Dental Surgery, has denounced the theory of Goodsir, and taught the correct theory." The spirit in which Mr Tomes speaks of Goodsir is, however, in reality, very different from this. "I would not be understood," he says, "to set small value upon the observations of Arnold and Goodsir;" and alluding to any errors of observation which may have occurred, he remarks that, after all, "the state of things left does not widely differ from that described by Goodsir" (p. 133). Mr Tomes's book is a production of much value, and bears testimony to the scientific ability, careful research, and descriptive power of its author.

The other three works come opportunely in anticipation of the requirements in the dental curriculum issued by the licensing boards, mechanical dentistry being one of the special courses therein required, while materia medica in its general application is also one of the subjects of lecture and examination. Both books on mechanical dentistry are well and carefully compiled, and if there is nothing or not much absolutely new in their contents, it must be remembered that this is not their object; they are intended simply as text-books, in which capacity they will be found most intelligible and comprehensive. The little work on materia medica may be safely recommended not only to dental, but to any other students as an admirable *résumé* of all matters bearing upon the subject of which it treats.

THE BOSTON SOCIETY FOR MEDICAL OBSERVATION

Part Third.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION LVIII.—MEETING II.

Tuesday, 17th December 1878.—Professor SANDERS, *President, in the Chair.*

I. *Dr Cadell* showed the LIVER from a child two months old, the infant of the syphilitic woman he had shown at their previous meeting. It weighed 12½ oz., and occupied the whole of the upper part of the abdomen.

II. *Mr D. J. Hamilton* showed the BLOOD from the heart of a patient under Professor Sanders's care, who had died from diabetic coma. What they now saw was the upper stratum of the blood. It was, when first removed, perfectly white, but, subsequently, became pinkish-gray in colour, and consisted of a finely divided oily emulsion like chyle. It was soluble in ether, and was blackened by perosmic acid. It had, further, the characteristic odour of such specimens, variously compared to chloroform, acetic ether, and specially to acetone. Similar cases had been already recorded by Dr Balthazar Foster and himself. On showing the specimen to Professor Rutherford, he suggested that this curious emulsion might be due to a transformation of the sugar; and although the possibility of this was denied by certain physiologists, there was probably little doubt about it, as the sugar disappears to a great extent from the urine when the coma comes on. The cause of the coma in this case was the blocking-up of the lung capillaries with the oily emulsion. The whole matter was at present being worked out, and he hoped that at a future meeting of the Society Dr Sanders would lay the result before the members.

III. *Dr Kirk Duncanson* showed, for Mr Benjamin Bell, the RIGHT EYEBALL of a woman, removed for a large tumour of the fundus, proceeding from the optic nerve.

IV. *Mr Annandale* then read notes of a CASE OF STRANGULATED HERNIA, REDUCED "EN BLOC," WHICH WAS RELIEVED BY MEDIAN ABDOMINAL INCISION, and which appears at page 678 of this Journal.

Mr Bell thought that all must have been convinced that Mr Annandale had done the best thing for his patient. During the last few years surgeons had become more confident in abdominal surgery, and this recorded case was an additional step. Two or three years ago he saw a case where the hernia had been reduced *en bloc.* No tumour could be felt over the inguinal region, where the hernia had been; but, as the patient was well developed and bulky, he cut down over this site. Although the incision was made so large that he could feel all the hernial apertures from the inside of the abdomen, he yet found nothing to account for the symptoms. The patient, however, made a good recovery, so that he never really knew what had happened. In another case, where no tumour was visible, which he saw lately, the patient was moribund. He cut down over the femoral ring, and found a small tumour, consisting of omentum and a small knuckle of intestine. The patient, however, died next day of exhaustion and starvation. While he thought he was right in his treatment of the latter case, he would, in his next, try Mr Annandale's plan. One advantage of it would be less tendency to further hernia, as occasionally happened when the surgeon cut down over the hernial site.

Dr Carmichael mentioned a case of hernia where the symptoms were unrelieved, and the patient died twelve hours after. This was one, therefore, where a further operation might have been tried.

Mr Chiene was much pleased with the case narrated by Mr Annandale. It was a right operation, and death resulted from the three days' strangulation. It was a different operation, however, from that which Mr Annandale had proposed in a former paper on umbilical hernia.

Mr Annandale explained that, in the paper Mr Chiene alluded to, he had only proposed the operation there described for umbilical hernia. In such cases the coverings and skin were thinned greatly, and he believed it better practice to incise the abdomen near the hernia and pull the intestine back. He wished to impress on the members present the ease with which a strangulated hernia could be relieved by gentle traction made from the inside. Inversion of the patient was another way of carrying out this principle.

Mr Bell mentioned that the late Dr Sidey often reduced herniæ in what was known to gynecologists as the "knee-elbow" position.

V. *Dr John Duncan* then read NOTES ON A CASE OF FILARIA MEDINENSIS, which appears at page 713 of this Journal.

Dr D. J. Hamilton thought it more likely that the embryo, and not the fully developed worm, entered the foot.

Mr Annandale remarked on the practical interest of Dr Duncan's paper. From the careful observations of Dr Duncan, the points to be attended to in the treatment of Guinea worm seemed to be gradual unwinding and antiseptic moisture.

In the further discussion, *Dr Wyllie, Dr John Brown,* and *Mr Bell* took part.

Dr Duncan briefly replied.

VI. *Dr Cadell* then read NOTE OF A LARGE TUMOUR GROWING FROM THE CLAVICLE, by J. Husband, Esq., F.R.C.S. Edin., which will appear in a future Number of this Journal.

OBSTETRICAL SOCIETY OF EDINBURGH.

SESSION XXXVIII.—MEETING II.

Wednesday, 27th November 1878.—Dr ANGUS MACDONALD, *Vice-President, in the Chair.*

Mr George Mackay, M.B., F.R.C.S.E., and Mr J. H. Croudace, L.R.C.S. Ed., were admitted Ordinary Fellows.

I. *Professor Simpson* showed a female ANENCEPHALOUS FŒTUS WITH SPINA BIFIDA, born in the Maternity. The case was associated with extensive hydramnios—an association which he had already brought under the notice of the Society. The fœtus was still-born, was between the seventh and eighth month, and presented by the pelvic extremity.

II. *Professor Simpson* showed a FŒTUS from a case of difficult labour. He wished specially to bring under the notice of the Fellows the head-markings it exhibited. (*Vide* Fig.) Three of these were artificial, and easily understood. Thus, on each side of the head the fenestrated mark, due to the firm forceps-grip, was easily noticeable, as well as the perforation in the occipital bone, which was found necessary to allow of extraction. The two other markings were, however, of quite a different nature, and occurred very rarely. They were due to a distinct deformity of the pelvis, and the resulting impressions on the fœtal head. The first of these was a deep indentation over the right half of the frontal bone, coinciding laterally and posteriorly with parts of the frontal and coronal sutures, and evidently due to pressure against the projecting promontory of the sacrum. Behind, there was a transverse bar at the nape of the neck, where it had lain opposite the posterior aspect of the pubis. These markings explained fully the state of affairs when operative interference was begun, the nature of the interference, and the character of the pelvic deformity. The head had evidently lain well down in the pelvic cavity, markedly flexed, and almost perfectly rotated, with the occiput forward and to the right, and the sagittal suture running somewhat obliquely up to the left. The marked flexion pointed to the pelvis being a decidedly contracted one, while the promontory mark proved clearly that it was "flat." It was, therefore, a "flattened universally contracted pelvis;" and it was this

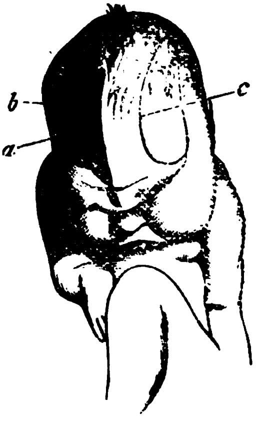


FIG.—Fœtus with head-markings.
a Inner boundary of promontory depression.
b Posterior border of promontory depression.
c Mark of forceps' blade.

combination which had caused the very rare and interesting head deformities they now saw.

III. In striking contrast with the preceding specimen was the one he now showed. The case had occurred in the practice of Dr Williamson of Leith, and was a transverse presentation where Dr W. had turned. As he had some difficulty in extracting the head, Dr Simpson was sent for. When he arrived, however, the difficulty was overcome. In front of the right ear there was a vertical furrow and depression of bone about an inch in length. On the opposite side of the head was a transverse mark just behind the left ear. The cause of these was evident. The pelvis was ricketty, and the projecting promontory had made its mark on the extended head as it passed down after turning. The transverse mark was due to the pressure of the posterior aspect of the pubis.

IV. *Dr Croom* showed a preparation of UTERINE HYDATID. The patient was pregnant four months, and had been suffering from hæmorrhage for a month.

V. *Professor Simpson* exhibited a preparation of VASCULAR DECIDUA, causing hæmorrhages during pregnancy, which the patient thought were menstrual. She had suffered from gonorrhœal colpitis, warty bodies of considerable size being scattered over the whole vaginal surface at the full term.

VI. *Dr Buist* showed a LOBULATED PLACENTA.

VII. *Dr Macdonald* exhibited five FIBROID POLYPI. Four of these had been removed from the cavity of the uterus of one patient, who had speedily recovered and was now quite well. One, the largest of the five, was removed from another patient by simple incision of its pedicle, and without difficulty, as it had been forced into the vagina through the cervix. The patient was very anæmic and debilitated from long loss of blood and leucorrhœa. A week after the operation, she fevered and sunk rapidly from septicæmia, accompanied by diffuse peritonitis. No bacteria were found in any of the fluids after careful examination. The heart was in a state of fatty degeneration, no doubt induced by the long-continued drain on her system by the bleeding, The site of the pedicle was covered with an unhealthy, somewhat diphtheritic-looking membrane.

VIII. *Dr Craig* showed a small TUMOUR removed from the uvula of a child. The infant could suck well, but had a difficulty with spoon food.

IX. *Professor Simpson* exhibited a FIBROUS POLYPUS, removed a few days ago by the ecraseur. Previous to operation there had been much loss of blood, and the resulting anæmia was so intense that he had the chloroform administered with even more than the usual caution. Happily, the neck was only about half an inch in diameter, and was easily divided with the chain ecraseur without the loss of any blood.

X. *Dr Hamilton* of Falkirk gave a demonstration of the USE OF THE FORCEPS IN TEDIOUS LABOUR. He said he noticed that it was announced to the members of the Society that he would give a demonstration on the use of the forceps in tedious labour; but he felt that the term "Demonstration" was rather more pretentious than he cared to use. He would rather say that he intended to give to them a little history of his experience in obstetrics, and a description of the means he had found most effectual in enabling him to practise this branch successfully.

He said he commenced by attending the lectures of the late Professor Hamilton in 1832. From these he learned little as to the application of the forceps. The short forceps (which Dr Hamilton exhibited) was then the only instrument recommended to students, for, as to the long forceps, its application was considered a very serious matter indeed.[1] The short forceps, Dr Hamilton said, was a useless form of the instrument as he now applied it (although he was afraid it was still used by many practitioners), and could be properly applied only when the face has got into the hollow of the sacrum,—a kind of application which, he said, he had not made for twelve or fifteen years, and then only to assist a midwife. From Professor Hamilton, Dr Hamilton said, we could hardly expect much information as to the use of the forceps, when we find him stating that he often supported the perinæum for five or six hours. What should we think, Dr Hamilton asked, of any practitioner who made such a statement *now?*[2] Professor Hamilton, Dr Hamilton said, also laid down the rule for the guidance of his class, that the first stage of labour should not be allowed to last more than about twelve or fourteen hours. This, Dr Hamilton said, he believed led to the most unnecessary interference with the course of labour. Students never went to such cases without ergot in their pockets, and kept continually molesting the patients with antimony, bleeding, belladonna, etc., to relax the os uteri, all of which, Dr Hamilton said, he now saw to be not only unnecessary, but often pernicious. He now almost never interfered with this stage, although it should last one, two, or even three days; only in extreme cases of this kind, the practitioner, as he should immediately have to show, must look sharp in shortening the second stage if he expected the child to be saved.

---

[1] Let any one read Dr Barnes's description of and directions as to this operation, and he will see that it *is* a serious matter yet.—See paper by Dr Hamilton in *British and Foreign Medico-Chirurgical Review*, January 1872.

[2] *Practical Observations*, published in 1840. Of course, supporting the perinæum for five or six hours, or rather allowing the child to remain for that time in the hollow of the sacrum, is a very different thing from supporting the perinæum just before delivery. Regarding the latter, the Professor's practice deserves all praise.

There was one rule, Dr Hamilton said, which was strenuously insisted on by the Professor, which, though it had been neglected, or even condemned, by some practitioners of repute, he considered to be of the very highest importance. This was, supporting the anterior portion of the os uteri in the second stage of labour, pushing it up here, or both here and posteriorly, with the fingers introduced, or with the whole hand if necessary. This rule, Dr Hamilton said, he had always followed in his own practice, and very generally with success. He had no doubt the neglect of it might, in certain cases, entail very serious consequences.

Dr Hamilton attended the Edinburgh Maternity Hospital in 1832-3, and during the whole time he never saw the forceps used; but he saw the head perforated in a case of puerperal convulsions. During this time Dr Hamilton also attended the out-door cases at the Maternity; but the very first that came into his hands proved unfortunate. It was a primipara. The case lingered on for two days or more. The "annual pupil," an Irish gentleman with a very persuasive tongue, had to be got to give assistance. He gave ergot, and did a number of other things, but, Dr Hamilton thinks, never once mentioned the forceps. He, however, told the woman she would be better by-and-by, and so she was, but the child was dead, though Dr Hamilton now sees it might with the greatest ease have been saved. This was not very pleasant as a beginning; but in those days still-born children were not much thought of.

During the same time, Dr Hamilton said, he got practical instructions in the use of the forceps from Dr Reid, Edinburgh, who had the reputation of being an expert operator. All he could recollect of these, however, was, that the Doctor insisted that the forceps ought to be used oftener than was then common.

Before Dr Hamilton left Edinburgh to settle in Falkirk, in the end of 1833, he had had under his own care thirty-three labour cases, and he had already remarked one thing that puzzled him. This was, that in certain cases, though Professor Hamilton's directions were attended to, and the uterus was got over the head, and even ergot had been given, still it obstinately remained pretty high up in the pelvis, and refused to turn into the hollow of the sacrum. Not seeing the reason of this, he applied for an explanation of it to Mr M'Kenzie, the Demonstrator of Anatomy in the University, who at once said that no doubt it must arise from the os uteri grasping the shoulders after the head had passed through it, which, of course, at the time was thought to be highly satisfactory.

On settling in Falkirk, Dr Hamilton said he rather prided himself on the obstetric knowledge he had now acquired; but this did not continue long, for, a short time afterwards, he was called in to assist a midwife in a case of what used to be called impaction, and he found himself, with the instrument then in use, utterly foiled.

The blades never could be got to lock, and, of course, the head never could be properly grasped. The most experienced practitioner in the town was then called in, and he and Dr Hamilton again and again tried to make the blades lock, but failed. Of course, all these attempts to introduce the blades were made laterally, because the instrument was the short and double-curved one, and the curve must be made to fit to the hollow of the sacrum. There was no longer instrument, Dr Hamilton believes, at that time in Falkirk. The consequences following all this, Dr Hamilton said, may easily be imagined: perforation had to be resorted to, and the parts of the mother sloughed dreadfully. In a subsequent confinement Dr Hamilton had to attend the same patient. The os uteri and os externum were rigid and glued together. The child was premature and putrid, and to extract it a deep crucial incision had to be made, a low typhoid fever following, under which the patient sank. In this melancholy case, Dr Hamilton said there was one thing he noticed which had been of great use to him since then. This was, that after perforation the head came away *with an ear to the symphysis.*

Still using the short forceps, Dr Hamilton mentioned another case (twins) which occurred to him. The patient, a primipara, was of the squat form, with broad pelvis. The forceps were used after a prolonged labour, and both children were dead. Of course this was very discouraging, but what was to be done? Mr M'Kenzie had said that the os uteri prevented the shoulders passing, and how was that to be overcome?[1] However, Dr Hamilton stated that he had now begun to doubt whether Mr M'Kenzie's explanation was altogether correct, for he had noticed that these tedious labours often occurred in women of this squat form.

Shortly after this time, Dr Fairbairn of Edinburgh mentioned to Dr Hamilton that Dr Ziegler, who then had charge of the Edinburgh Maternity Hospital, had introduced a new form of forceps which were very superior to the short, double-curved forceps. Being much interested in the subject, Dr Hamilton came in to Edinburgh and saw Dr Ziegler, who explained to him the mode of applying his forceps, and recommended him to get the three blades, which Dr Hamilton exhibited to the Society, from Mr Young, the surgical instrument maker. Dr Hamilton said the third short blade, used with blade No. 1, gave a good hold of the head, and, though he had not had occasion to use it often, was useful in cases where the promontory of the sacrum or the pubes projected much inwards. Dr Ziegler had not, as far as Dr Hamilton recollects, any particular theory as to the application of the instrument, and spoke of its great superiority consisting in the ease and certainty with which it locked, and could be applied in any direction, and the good hold of the head which was got, even when the short blade was used. The ease in locking, however, was thought to be its great advantage.

---

[1] Mr M'Kenzie strongly recommended, in such cases, an injection of raw whisky; but I have never tried it.

For the next twelve or fifteen years Dr Hamilton used this forceps, and began gradually to find out the aptitudes of the instrument. The melancholy cases he had mentioned always dwelt upon his mind, and it became his practice always, where he could, to apply the first blade over an ear, which very generally was near the symphysis, so that the instrument was applied nearly antero-posteriorly. This he found gave an excellent hold of the head, and, in fact, had been previously recommended by both Smellie and Burns. Combining the good hold of the head which he had now obtained with the fact he thought he had observed, that it was the broad and squat pelvis that prevented the head turning into the hollow of the sacrum, Dr Hamilton stated that he now endeavoured to use traction and rotation together, and in many obstinate cases was successful, for the moment the head was turned the case became quite simple.

In 1853 Dr Hamilton published in the *British and Foreign Medico-Chirurgical Review* for April an account of the practice he had been pursuing, and the results he had obtained, which seemed at the time to take the profession somewhat by surprise. To understand this, Dr Hamilton said it would be necessary for him to read to the Society an extract from the same journal for October of the preceding year (although he had already quoted it in more than one of his papers), in order to show the precise condition in which obstetrics in this country then were. It is from a review of Dr Murphy's *Principles and Practice of Midwifery*, and is as follows:—"*Question of Instrumental Interference in Laborious Labour.*—Dr Murphy endeavours to deduce, from the examination of statistical facts, the rules that should guide our practice in those cases in which the head, without being actually arrested, yet advances so slowly as to seem to be so. In 75,911 cases of midwifery occurring in British practice, there were 138 forceps cases, and in 35 of these, or 1 in every 4, the child was still-born. In France 173 forceps cases furnished 41 still-born children; and in Germany 2808 furnished 650, so that it may be laid down as a rule that nearly one-fourth of the children delivered by the forceps are lost. In order to determine how these protracted cases fare when left to themselves, Dr Murphy refers to Dr Collins's tables as the only data which, from their accuracy and minuteness, afford the elements of calculation—those exhibiting the duration of the labour in all the cases reported. From these tables it appears that of 430 cases in which labour lasted or exceeded twenty-four hours, 324 were delivered without assistance, the children being lost in 61 cases, or about 1 in 5. Among the 5699 cases that fell under Dr Murphy's own care, 218 were similarly protracted, and 175 of the number were delivered naturally, 41 children, or 1 in 4 nearly, being still-born. Thus, so far as the children are concerned, the proportion still-born is very much the same, whether the forceps be employed or not, the difference, if any, being in favour of leaving these cases to nature. With respect to the mothers, the experience of Drs Collins and Murphy leads to the conclusion that a mortality not greater, but probably considerably less, attends the non-interference practice as compared with the results of forceps cases that have been recorded. If these conclusions are sound, it is obvious that the use of instruments is to be discountenanced in all but exceptional cases of this kind, in which the habit of the patient is too feeble to admit of her enduring a protracted labour without risk of exhaustion. The discrepancy between English and foreign practice may be judged of by the fact, that while Ramsbotham employed the forceps once in 729 cases, Joseph Clark once in 742, and Collins once in 684, Kilian resorted to them once in 78, Carus once in 14, and Siebold once in 9 cases. Dr Murphy's recommendation is to employ the forceps only in cases of positive arrest, refraining if any advance, however slow, is made, unless dangerous constitutional symptoms are present." Conclusions similar to these, Dr Hamilton said, seemed to have been arrived at by the heads of the profession, and in Edinburgh and elsewhere the dictum was in such cases to leave matters very much to nature.[1] This was not the case, he thought, among country practitioners. This was a branch in which, from their isolation, they had to act very much for themselves, and necessity is always the mother of invention; but what could they do with almost the only instrument they possessed or were qualified to use—the useless, short double-curved forceps, as he had perhaps rather irreverently called it?

In the paper referred to, Dr Hamilton said he first laid down the rule that the second stage of labour should not be allowed to extend much beyond two hours in an ordinary labour, and less when the first stage had been protracted or severe. This rule he considered of the very greatest importance, especially as to the life of the child, and he still adhered to it. It was so important, that if it were neglected, do what the practitioner liked, use forceps or anything else, the life of the child would be put in jeopardy. In fact, it was the key-note of the most important part of his practice, for he had no wish to apply the forceps oftener than was necessary; but experience had taught him that if this rule was not infringed, forceps must be used much oftener than was formerly usual; and further, that neglect of this rule, and frequent forceps deliveries, were not incompatible; but assuredly such practice would be attended by a large fœtal mortality. Authors used the forceps, and said there was a fœtal mortality of 1 in 3 or 4, but he replied, how could it be otherwise, for the child was dead before you applied the instrument? The real secret was to *use the forceps in proper time*. But what was the proper time, or rather, how often does the *proper time* imply the use of the forceps? This was a matter to be determined by experience, and he had then, after being twenty years in practice, to give his.[1] In this paper, accordingly, he had to announce that, while others had been using the forceps once in 400 to 700 cases, he had been using it once in every seventh or eighth case, with the marvellous result, however, that 317 children had been born alive, with the single exception of one in a breech presentation. On this branch of his subject Dr Hamilton said it would save time, though a little out of place, for him to give at once the fœtal mortality which had occurred in his practice from this time forward up to May last, the forceps having been used rather oftener latterly than at first:—1st, Then, he had had to announce in the *Edinburgh Medical Journal* for October 1861 that he had brought into the world successively 731 children, all of whom were born alive, the 732d being a forceps case, in which the child was dead; 2d, up to 1st September 1871 there were added to these 472 births, with one fœtal death in a footling case; and again, 167 births up to 1st May 1878, with one death in a forceps case—in all, 1371 successive births, with only three deaths. In these there were 190 forceps cases, with two deaths.

---

[1] In the *Edinburgh Medical Monthly Journal*, Nos. 29 and 32, the forceps is said to have been used in the Edinburgh Maternity once in 472 cases. The fœtal mortality in these was 1 in 22.

On this part of the subject Dr Hamilton said it was impossible for him to enter into details at present, and he therefore referred those wishing more information to his papers in the *Edinburgh Medical Journal, British and Foreign Medico-Chirurgical Review,* and *London Obstetric Journal*. He particularly directed their attention to his papers in the *British and Foreign Medico-Chirurgical Review* for October 1871 and January 1872, when, of course, his views had become more matured and decided than they were at first. It had now become clear to him, he said, that there are three principal positions in which the forceps required to be applied to the head. These are—1st, When the face is in the hollow of the sacrum. This is the old operation, for which the short-curved forceps is suitable, and in which, from delay, the child used so often to be lost. Dr Hamilton said he now almost never had to apply the forceps in this position. The 2d is when the head enters the pelvis transversely, the uterus having been pushed, or having slipped, over it; but sometimes also when the uterus is pushed down by the head into the vagina without getting over it.[2] This, he said, was by far the most common position in which he had required to apply the forceps.[1] The first blade was generally placed anteriorly, as nearly as possible over an ear, and the other usually took its place almost without any guidance, or guidance of the simplest kind. In this position of the head Dr Hamilton said he generally found that he had to introduce the instrument within the parts of the mother about nine inches, so that formerly he supposed these would have been called "long forceps" cases; in fact, he might say all his forceps deliveries belonged to this once so greatly dreaded category—so much dreaded that even Smellie said he would recommend turning rather than face them.[2] The third position in which he had required to apply the forceps was at or near the brim, the head being within or having passed out of the uterus. In this to him comparatively rare class of cases, he said he got hold of the head wherever he could, and advanced it until it got into one of his positions (which Dr Hamilton showed on the pelvis), and then he knew exactly what had to be done to effect delivery.[3]

---

[1] It is both amazing and amusing to find writers on this subject constantly saying "the forceps was used with such-and-such a fœtal mortality," without asking or knowing what kind of instrument was used, how long the second stage of labour had been allowed to last, etc., as if the mere use of the forceps must necessarily secure success.

[2] In these cases I pull down the head with the forceps in one hand, and push up the uterus with the fingers of the other.

In this paper Dr Hamilton said he had attempted to show that the impediment to the child's progress was very seldom at the brim. It was usually in what he had called the anterior portion of the outlet of the pelvis that the head was caught (which Dr Hamilton showed on the bony pelvis) from the projection of the ischial spines, and which he had shown in some pelves constituted almost a trap, from which the head had the greatest difficulty in escaping. This was the difficulty which had puzzled him in the commencement of his practice, and he should have immediately to show how he now usually got over it.

In the same paper Dr Hamilton said he stated that he had made some modifications on Dr Ziegler's admirable instrument, which he had used so long and so successfully, and this he now exhibited to the Society, and showed his mode of using it. He had used this form of instrument for upwards of eight years, and he had met with no case in which, as a forceps, he did not think it perfect. When the head was once grasped, as he had expressed it on another occasion, it did its work splendidly. Even in a very difficult case, which afterwards came under the care of Drs Duncan and Underhill, where he had to apply it at the brim, nothing he thought could be better than the work it did.[1] Dr Hamilton then explained that, with his old forceps, he used to consider that cases in his second class for applying the forceps could be divided into—1st, those that, when traction was applied, easily took the turn into the hollow of the sacrum; 2d, those that refused to do so, but could thus be rotated by the instrument, traction and rotation being combined; 3d, those that refused to rotate at all, even with the forceps, and in which version had to be resorted to, or the head had to be opened. Ever since he had used his stronger forceps, however, he said he could place his cases, with one exception where the head had to be opened, under only two heads, viz., 1st, those that easily took the turn without any rotation being used; and, 2d, those that never took the turn at all, but came away with the forceps placed antero-posteriorly, exactly as it had been applied; and, very curiously, the latter now formed perhaps three-fourths of the whole. Dr Hamilton said he used no compulsion in doing this, for he almost let forceps and child take their own course, only he turned the flat side of the forceps round the pubes, as he found this greatly increased the power of extraction. Dr Hamilton here showed on the bony pelvis the course taken by the forceps in such deliveries, and pointed out the ample room there was in the hollow of the sacrum and under the arch of the pubes for this motion of the instrument. In thus throwing back the head, fixed in the soft parts of the pelvis, we used, Dr Hamilton said, not merely traction, but also leverage,—the lever being the forceps and head of the child combined, and the fulcrum the soft parts of the mother that firmly held the head. At the brim traction alone could be used, for the head had not then become fixed in the soft parts. The extraction, with a pair of pincers, of a spike driven into a tree (which Dr Hamilton gave in one of his papers), showed this clearly, he said. From this it would be seen that the pelvis was not *necessarily* a rifled tube, as it had been called. It was simply, in those cases where the head did not take the turn, a curved tube. Indeed, it was only a curved tube in many cases of natural labour, when the face was at the symphysis and came away without turning. It was of no consequence to him now, however, Dr Hamilton said, whether, in such cases, the head took the turn or not, for both were equally easy. The only difference was that, with his old instrument, he often had to employ rotation to get the head out of the anterior space at the outlet, whereas, with his stronger forceps, he found he could easily extricate it simply by throwing the head back into the hollow of the sacrum.

---

[1] Speaking roughly, I should say that these comprise 96 to 98 per cent. of my forceps applications.

[2] Smellie represents in his 4th plate very nearly the position of the head in which I usually apply the forceps. In describing plate 5, where the face has got into the hollow of the sacrum, he says, "But if the head is high up in the pelvis, as in the former plate (4), the forceps ought not to be used except in the most urgent necessity." (See Smellie's *Obstetric Plates*, London, Samuel Highly, 72 Fleet Street, 1837.) If we think of such facts as these we can realize to ourselves the advance—we may almost, I think, say revolution—that has taken place in this department of obstetrics. What is it that has stood in the way, preventing this advance taking place for so long? I have said more than once before, and I say again, that it has been the double curved forceps, which was originally intended for fitting into the hollow of the sacrum, and is fitted only for a certain mode of delivery. It was well observed by a gentleman on the night of the discussion on this communication, that the curve had gradually been getting less in the numerous forceps that had been devised, and I must express the opinion that the sooner it is got rid of altogether the better. In this respect the Dublin school had been said to have set a good example, straight forceps being mostly used, and my conviction is that, for the ordinary use of the instrument, every other school will be compelled to follow in the same course.

[3] For these positions see *British and Foreign Medico-Chirurgical Review* for January 1872.

---

[1] See case in Dr Hamilton's paper in *London Obstetrical Journal* for June last. Such cases are so rare in an ordinary country practice that in his own he had to go back upwards of thirty years before he came to such another.

Dr Hamilton then dwelt upon the advantages possessed by the instrument he exhibited—its length and strength, its simplicity, and the ease and certainty with which it locked; the impossibility, almost, of its injuring mother or child, when the most ordinary care was given in extraction; the powerful hold that it took of the head, and how, by this means, it converted the head and forceps into a long bar, as it were, which could be used as a lever when the child's head was fixed in the parts of the mother; to the advantage which even the small "wrinkle" of smearing the inside of the blades with indiarubber paste gave, by making them adhesive; to the solid blade No. 1, and to the absence from injury which this secured, even when the blade was placed over the face.

Dr Hamilton said that perhaps the most distinctive thing in his practice now is its simplicity, and the negations, as compared with what was considered necessary or proper formerly, are even more striking than the positive alterations. For more particulars as to these he must refer to his paper in the *British and Foreign Medico-Chirurgical Review* for October 1871. As to the application of the forceps, it seemed to him sometimes that it was done half by instinct, as a lady uses her fingers on the piano. He had, as it were, a few great landmarks to guide him, and the rest seemed almost to be left to nature.

In fine, in an average healthy population, Dr Hamilton said he had found, after a lengthened experience and a varied practice, that this form of instrument fulfilled all the purposes he had required in a forceps.

In conclusion, Dr Hamilton said it would be seen that there were three circumstances or rules which have been distinctive of his practice. The first was to interfere as little as possible with the first stage of labour; the second, to prevent the second stage from much exceeding two hours, and in certain conditions to cut it even much shorter; the third was, to understand the mechanism of labour, and to know exactly where the resistance to progress really lay, and to take such means as he had pointed out to overcome the difficulties which had to be encountered.

Dr Hamilton, in replying, after the discussion on his communication, gave references as to Professor Hamilton's statement regarding supporting the perinæum, and as to the state of obstetric opinion previous to 1853, both of which had been questioned by Dr Moir.

In answer to a question put by a member as to the effect this mode of delivery had upon the bladder, Dr Hamilton stated that neither before nor after delivery had he had occasion to use the catheter for thirty years—the first evidently because he never allowed time for the head unduly to press on the neck of the bladder; the second, because his instrument never injured the parts of the mother.

As to Dr Keiller's remark, that it would be dangerous for him, as a teacher of students, to tell them that they might safely use the forceps in every sixth or eighth case, Dr Hamilton said that it had not fallen to his lot to be a teacher of students, but that he had given to his son, when settling in practice some eight years since, such instructions as the members had heard from him, and that, acting upon these, he had, in the first years of his practice, delivered in 190 successive cases without a loss to mother or child, and since then he had delivered with the forceps 73 times consecutively, with only one fœtal death. Dr Hamilton said he thought if students could be made to imitate these, they would do pretty well for a beginning.

Regarding Dr Bell's objection to Dr Hamilton's mode of delivery, in some cases, that it was not the natural one, he would not quarrel about terms. It was sufficient for him that it was easy and safe. The long diameter, as well as the whole fœtal head, every accoucheur knew, was often, even in lengthened labour finished naturally, wonderfully moulded and prolonged, and, of course, this was still greater where the forceps was used. The very pretty rigid model fœtus's head on the table, every one must see, gave quite a false representation of the capabilities in this respect of the head of the living child.

The *natural* mode of delivery, however, is really that which nature herself takes, under the particular circumstances, *when the forceps is used.* Now, he used no compulsion here further than applying a substitute for uterine force to overcome an obstruction. As he had said elsewhere, if the face turns into the hollow of the sacrum, he was well pleased; but if not, nature and he got on very well without this.

To be more precise, let us see how Dr Bell's objection, that in my mode of delivery with the forceps I bring the long measurement of the head through the short measurement of the pelvis, accords with fact. The question here, when we speak of the capacity of the pelvis, it must be recollected, is not that of brim, but of outlet; for, as I have said, it is there that in 96 to 98 per cent. of my forceps cases the obstruction has occurred. The long diameter of a large child's head at birth, in an easy labour, I find to be 4¾ inches, and this evidently would bear considerable compression. Now, in an ordinary well-formed pelvis, which I take, these are the measurements:—From the lowest part of the sacrum (excluding the coccyx) to the symphysis pubis is 4¾ inches. This is the space through which the head has to pass after the face has got into the hollow of the sacrum. But suppose we take a case in the position in which I usually apply the forceps, let us say with an ear half or three-quarters of an inch on either side of the symphysis, then the long diameter of the head will be placed nearly between an obturator opening and the opposite ischiatic notch, which measures 6 inches. Supposing the head to advance lower in the pelvis, maintaining the same lateral position (which can be seen so well when my mode of placing the forceps is used), then the measurement from the lowest part of the tuberosity of the ischium to the middle of the opposite ischiatic notch is 5 inches, so that it will be seen that the space is fully greater in the directions indicated than antero-posteriorly, and that, when sufficient force is applied, there is evidently room enough for the head to pass without the face turning towards the sacrum. The great difficulty arises (as I have attempted to show in the *British and Foreign Medico-Chirurgical Review* for January 1872, p. 182) from a too great projection in some females of the ischial spines in the centre of the outlet, constituting in the anterior portion of the outlet what I have called almost a trap. In the pelvis I refer to the distance between them is 4⅛ inches, but in nine naturally formed pelves, the measurements of which I have given in the paper referred to, the measurements vary from 5¼ to 3¼ inches. It is this latter class that furnish really difficult labours in the usual mode of delivery, for simple traction draws the head directly down on the spines. If the head turns round, or be turned, this obstacle is avoided; or, as I have said, if the head be thrown by the forceps into the hollow of the sacrum, space is gained, as the measurement from the hollow of the sacrum to the symphysis is in this pelvis 5 inches. Again, from the middle of the obturator opening to the hollow of the sacrum is 5 inches, and from the obturator opening to the ischiatic notch is more. The space here is large, and, though the parts are covered with ligaments, these evidently yield when sufficient force is applied. Whether or not this be held a sufficient account of the mechanism involved, the fact remains, that, in a very large proportion of my forceps cases, delivery takes place as I have described it.

In resuming his seat, Dr Hamilton thanked the members for the compliment they had paid him in asking him to make this communication to the Society, to which he had been a stranger for no less than twenty years. Notwithstanding that long lapse of time, he was glad to see that it was still as prosperous as ever, though, alas! he missed from among them some long-familiar faces that were then its chief supports and ornaments. Especially did he miss that of his old and valued friend, the late occupant of the obstetrical chair in the University, whose comparatively early death threw a gloom alike over friends and strangers, and whose memory will be honoured and cherished for yet a long time to come by both the public and the profession. Dr Hamilton also thanked the members for the attention they had given to his communication, which had extended to a greater length than at first had been his intention.

Dr Moir briefly thanked Dr Hamilton for his paper and demonstration, and commented on the principles of his practice.

It was then agreed to postpone the continuation of the discussion of the subject till next meeting.

THE BOSTON SOCIETY FOR MEDICAL OBSERVATION

Part Fourth.

PERISCOPE.

MONTHLY RETROSPECT OF OBSTETRICS AND GYNÆCOLOGY.

By Angus Macdonald, M.D.

The Value of the Expression Method of Kristeller in Head Presentation is the subject of a contribution by Professor Bidder, of St Petersburg, in the *Zeitschrift für Gebertshülfe und Gynäkologie*, iii. band, 2 heft, 241. The author strongly supports the advantage attainable from the method properly conducted, and thinks, in a great many cases it may replace the use of forceps, where there is simply a defect of expulsive power, without any other abnormality. He believes that the method is rejected by many obstetricians, because Kristeller advocated its use in the first stage, in which Bidder regards it as unsuitable, and also recommended the hand to be applied so as to produce pressure and friction both, whilst the only proper method is to apply pressure to the upper pole of the fœtus only.

Bidder looks upon the method as merely furnishing a certain amount of fœtal axis pressure, and therefore holds that it is only admissible during the second stage, when that force of the uterus naturally comes into play. It should also consist in merely a steady push by one hand on the upper pole of the fœtus, care being taken, by rectification of the inclination of the uterus or otherwise, that the pressure is directed along the fœtal axis, and that the latter is kept normal during the pressure.

If any serious obstruction to the onward progress of the head is found to exist, such as an obstinate defect of rotation, the method should not be persisted in, in case pressure upon the placenta should asphyxiate the child, but the forceps, or other measures, must be employed. It should be a steady pressure, and not a combination of pressure and friction.

Professor Bidder gives an account of a series of 81 cases in which it was successfully applied. He does not regard it as likely to cause metritis or parametritis, and considers that it is much less likely to lead to septicæmia than forceps, inasmuch as it is less likely to lead to injury of the soft parts thus:—

Of the 81 cases delivered by the expression method, 34 went through the lying-in period with perfect health, 38 were the subjects of slight illness, 7 became seriously ill, and 2 died.

Comparing these results with 75 easy forceps cases, in which the instruments were applied to the head when it was quite at the floor of the pelvis, or even on the perinæum, Bidder states that only 13 of the patients continued quite well, that 34 were slightly ill, 20 seriously so, and 8 died.

He considers the method applicable so soon as the head has passed the outer os and the membranes are ruptured, and does not think that it need be delayed till the head is distending the perinæum and vulva.

THE IMPORTANCE OF NEPHRITIS IN PREGNANCY is the subject of an interesting paper by Dr Hofmeir, at s. 258 of the same journal. According to the statistics of the Berlin University Gynækological Institution for 10½ years, 137 cases of nephritis complicating pregnancy were noted out of a total of 5000 deliveries, or 2·74 per 100 cases. Regarding the results: Of these 137 cases the following tabulated summary is given—30 of the patients suffered from nephritis only, and of these 11 died, 22 were discharged alive, 2 were sufferers from the acute, and 31 from the chronic affection. Of the children, 20 were born dead, 15 were born alive, and in 2 the condition of the children is not stated. 104 of the patients suffered from both nephritis and eclampsia, and of these 41 died, 63 were discharged alive, 89 were sufferers from the acute affection, and 15 from the chronic affection. Of the children, 62 were born dead, 46 were born alive, and in 2 the result is wanting.

From these results Hofmeir argues that both for mother and child nephritis is a most serious complication in itself, even when it is uncomplicated with eclampsia. He is led to believe, from his own observations, that the nephritis of pregnancy is much more liable to perpetuate itself in the form of chronic nephritis than is usually supposed. The author refrains from any attempt at explaining the special etiology of nephritis in relation to pregnancy, contenting himself with observing and accepting the fact that pregnancy does establish a special predisposition. Post-mortem examinations lead Hofmeir to agree with Virchow in holding that inflammation of the hepatic tissues is apt to be associated with the nephritis of pregnancy, thus showing that the kidney is not the only gland that is injuriously affected by the pregnant state. The prognosis, according to our author, depends most upon whether the condition is acute, that is, restricted within a few days or even hours before labour; or whether it is more chronic, that is, extends over several weeks at least. The acute form is much more likely to pass entirely away after delivery, leaving no trace of its evil effects in the form of permanent renal disease. It is also more likely to pass completely away in proportion as it is both short and slight in degree. But such cases are fully as likely to be accompanied by eclampsia as the more chronic form. Thus, of the 104 cases in which nephritis was associated with eclampsia, 89 were examples of the acute form of the disease; whereas, of the 46 cases in which the disease appeared in the chronic form, only 15 were affected with eclampsia,—leaving 31 in which eclampsia did not appear. Of the 46 patients affected with the chronic form of the disease that were dismissed alive, it is noted in 8 that the patients were dismissed well, in 5 no note is made of the condition on dismission, and in 15 of the cases it is distinctly stated that albumen was present in the urine.

The treatment, according to Hofmeir, ought to be mainly directed towards mitigating the intensity and shortening the duration of the disease. Diaphoretics, diuretics, and purgatives are then recommended, as also in severe œdema the free puncturing of the labia. The induction of premature labour, and, indeed, under circumstances of special severity, the interruption of the pregnancy in the early months, are recommended, upon the grounds that we are thereby imitating nature in removing the chief predisposing cause to the continuance of the disease, and that at best the child's chances of viability in such cases are extremely problematical, whilst the chances of the mother being restored to complete health is the greater the shorter the nephritis continues.

Hofmeir argues that we need not fear that the measures necessary for induction of premature labour should bring on eclampsia, and points out that a great majority of the worst cases of nephritis recorded by him were unaccompanied by that symptom; that the eclampsia usually comes at an advanced stage of a severe case, and that by induction of labour early it is possible that the onset of eclampsia may be anticipated and avoided. At any rate, he holds it is not likely to appear in a more severe form when arising in connexion with induced labour than if occurring spontaneously. The period for inducing labour Hofmeir leaves to be decided chiefly by the urgency of the symptoms in each case.

CAN THE DILATATION OF THE CONTRACTED OS UTERI BY SPONGE-TENT FACILITATE IMPREGNATION is the subject of an inquiry by Haussmann, at p. 311 of the same periodical. After a short historical *résumé* of the introduction of sponge-tents into gynæcological practice in general, and for the cure of sterility in particular, the author explains the injurious changes in the cervical mucous membrane, and in the character of the secretions from it, which the sponge-tent, and, even though in a lesser degree, the tangle-tent, effects, and formulates his results in the following propositions:—When I summarize, therefore, my observations, the attempt to facilitate impregnation by dilatation with sponge-tents in cases of contraction of the os uteri or of the cervix is found unavailing. 1. On account of the increase of the traumatism associated with the coitus which is exerted upon the uterus; or, 2. On account of the peeling off of the epithelium of the mucous membrane, which, at all events, is not without importance for the movement of the spermatozoa; or, 3. On account of the alterations in secretion from the mucous membrane, which is destructive of the movement of the spermatozoa; or, lastly, On account of the equally destructive action of the carbolic acid, or other similarly acting solution, employed for purposes of disinfection. In consequence of these experiments, the conviction has long since forced itself upon me, that if we do not succeed in retaining the dilatation obtained by the sponge-tent patent until the injurious influence of the traumatism conditioned by it has disappeared, and until, furthermore, the mucous membrane of the uterus, with its secretion, has returned to the normal state, which, possibly, in each of the above-mentioned favourable cases occurred, or unless other dilating cones be discovered free from these defects, there at present exists no prospect of turning this method of artificial dilatation of the os uteri or its neck to account in facilitating a conception.

CONTRIBUTIONS TO THE STUDY OF PODALIC VERSION is the title of a paper in the *Archives de Tocologie* of September last by M. Horwitz of St Petersburg, in which he comes to the following general conclusions, after detailing the particulars of three interesting cases:—

1. In some cases of abnormal presentation, when the search for a foot of the fœtus presents insurmountable obstacles, we ought not to persist in this search, because we may be tempted to employ an excessive amount of force which may prove in the highest degree hurtful.
2. In such cases we ought to seize a knee of the fœtus, because this procedure is much more easy, and suffices completely to effect the version.
3. Only in certain cases, when we can get hold of neither foot nor knee of the fœtus, we ought to decide to perform pelvic version, properly so-called.

M. Horwitz very properly shows, in the end of his paper, that pelvic version is no new discovery, but has been long recommended in certain cases since the time of Levret, Smellie, etc.

STUDY ON PERINEORRHAPHE PRACTISED IMMEDIATELY AFTER DELIVERY, is the subject of two long and interesting articles by Dr G. Eustuche of Lille in the September and October numbers of the same journal. Dr Eustuche subdivides his consideration of the subject in the form of answers to the following questions:—1. Are there certain irregularities of pelvic conformation which predispose to rupture of the perinæum? 2. What is the most propitious moment to interfere surgically when a rupture has been produced? 3. What is the operative procedure which is the most suitable in immediate perineorrhaphe? 4. What are the precautions consecutive to the operation? In answering the first question, the author, after drawing attention to the effects of too great backward curvature of the lower extremity of the sacrum and coccyx, and the too straight sacrum, insists upon the paramount importance of unusual depth of the symphysis, which throws the axis of the outlet too far backwards. In regard to the second question, he believes that the immediate operation ought always to be preferred. So far as concerns the third, he recommends, in all severe cases, the vaginal surface and rectal surfaces to be brought together by interrupted-suture, and the perinæum by quilled-suture. In the after-treatment he recommends the use of antiseptic lotions and catheterization, the bowels to be kept constipated by opiates, the rectal-sutures to be first removed, then the perineal-sutures, and last, the vaginal. If any ulcerative surface should remain after operation, it is to be carefully treated according to surgical principles.

MONTHLY REPORT ON THE PROGRESS OF THERAPEUTICS.

By WILLIAM CRAIG, M.D., F.R.S.E., Lecturer on Materia Medica, Edinburgh School of Medicine, etc., etc.

COPAIBA AS A DIURETIC IN CIRRHOSIS. — The following notes of a case here, under Dr Dreschfeld, will be acceptable to those who read the interesting letter of Dr Lees in the Journal of 9th November:—W. D., aged 37, a clerk, was a spirit drinker for four years; seven years ago, and during the last four years and a half, has had three prolonged and painful attacks of jaundice, with ascites and œdema of the lower limbs. On admission two months ago, he was tawny, thin, and rather weak. He complained of constant pain in the umbilical and lumbar regions. His fluctuating abdomen measured thirty-four inches in circumference, and the vertical hepatic dulness in the nipple-line was three inches. The urine was scanty, bilious, and exalbuminous. During the first month here he took bitartrate of potash and compound jalap powder, and the abdomen increased two inches, the urine remaining scanty. Then, under a scruple of copaiba thrice daily, it rose on successive days from one pint in twenty-four hours to three, four, and five pints; while the ascites began to subside. Once for a fortnight he took half a drachm of tincture of belladonna thrice daily for the abdominal pain, and the quantity of urine fell below two pints daily; since then he has returned to the copaiba, and his urine has averaged three or four pints daily. The abdomen now measures thirty-three inches in circumference, and his general health is much improved (B. J. Massiah, M.B., Resident Medical Officer, Barnes Convalescent Hospital, Manchester).— *British Medical Journal*, 23d November 1878.

TAYUGA.—This drug, to which attention was drawn in a card published in the May number of this journal by Dr Hyde, is the root of a cucurbitaceous Brazilian plant, the *Dermophylla pendulina*. Its physiological action is said to be an increase of saliva and of gastric juice, improved appetite and digestion, and slight laxations, in small doses; in large doses it causes vomiting, colic, purging, sweating, and salivation.

It is a proprietary preparation, and two tinctures are prepared by the Italian pharmacists,—"*tra modre*" and "*tra deluta*." The former is used hypodermically in gram doses, and locally diluted with water. The weaker tincture is made with one part of the former to three parts of rectified spirit, and is given internally in doses, two to twenty drops, two or three times a day. The value of the remedy in syphilis is still *sub judice* (*Chicago Medical Journal and Examiner*, November 1878).—*Virg. Med. Month*, July 1878.

THERAPEUTIC EMPLOYMENT OF THE SALTS OF CONIA.—Hemlock, of which the alkaloid is conine or cicutine, has long been employed in cancer, scrofula, syphilis, and pulmonary or laryngeal affections, accompanied by spasmodic phenomena. Up to the present time this alkaloid has been regarded as exceedingly poisonous, and only given in very small doses. M. Tyrgakian has just shown in a thesis, which is an extremely complete physiological and clinical study of conine and its salts, that this substance is much less poisonous than supposed, and moreover that it produces all the effects of hemlock. Very numerous experiments on animals, which have made clear its action, have been conducted in the laboratory of M. Vulpian. The clinical researches have been made principally in the service of M. Audhoni, who for a long time has been occupied with the properties of the bromhydrate of conia, the salt which presents the most advantages, and has found that below 10 centigrams the medicine does not act; he has further seen that tolerance of the medicine is produced rapidly, which requires a rapid increase of dose, and that elimination taking place very rapidly by the kidneys, it was necessary to give it in large doses. When a rapid action is required, hypodermic injections are best; and a remarkable thing is, that although conine has a local effect which renders its injection very injurious, the bromhydrate, on the contrary, causes no accident at the point of puncture. A solution of one gram of crystallized bromhydrate of conine in 19 grams of distilled water is used, each gram containing 5 centigrams of the salt. The initial dose for injections does not differ much from what is necessary by the stomach, so that one may begin, without inconvenience, by a dose of 15 centigrams at once. But if the patient appear too susceptible or too weak, but 10 or even 5 centigrams should be used. The injections must be often renewed and the dose rapidly increased to keep the patient under the influence of the medicine.

By the stomach the increase of dose is very easy, and one may readily give very large doses, 50 or 60 centigrams and even more in three or four doses, always taking care to habituate the system by smaller doses. Limit, in the progression of doses, cannot be assigned, the condition of the patient, the effect desired, and other considerations of this order, can alone guide the physician. In one case the dose was raised to one gram in twenty-four hours, and in four doses without any evil results. Both pills and syrup were used. The following are some of the formulas employed by M. Tyrgakian:—Bromhydrate of conine, 1 gram; sugar of milk, 1 gram; mucilage, q. s., to be made into 20 or 40 pills, each containing 5 or 2½ centigrams. A syrup may be made with one gram of the bromhydrate of conine and 250 grams of simple or aromatic syrup, a teaspoonful containing 2 centigrams of the salt. For infants only 25 centigrams of the salt should be used, a teaspoonful then containing 5 milligrams.

For external use 2 grams of the salt in 40 grams of cucumber ointment. It may be combined with bromide of potassium as in the following:—Bromide of potassium, 10 grams; bromhydrate of conine, 1 gram; distilled water, 400 grams—each spoonful of 20 grams containing 50 centigrams of bromide of potassium, 5 centigrams of bromhydrate of conine. In children experimented upon the dose did not exceed 2 centigrams of bromhydrate of conine (*Chicago Medical Journal and Examiner*, November 1878).—*Journ. de Médecine*, September 1878, page 417.

KÖNIGSHOFER ON THE ACTION OF PILOCARPIN AND JABORANDI ON THE EYES.—The investigations were made upon human eyes. The experiments gave the following results:—Water and alcoholic extracts of jaborandi exerted no action. Infusion of jaborandi taken internally caused moderate spasm of accommodation, with approximation of the near point, flickering scotoma, and increased lachrymal secretion. Pilocarpin muriaticum applied topically caused considerable myosis, and slight spasm of accommodation. After a hypodermic injection, however, there was spasm of accommodation, accompanied by an approximation of the near point, and lessened myosis, together with an increased secretion of tears (*Klin. Monatsbl. f. Augenheilk.*, June 1878, and *Cbl. f. Med. Wiss.*, 2d November 1878).—*The Practitioner*, January 1879.

THE ACTION OF PILOCARPIN ON THE PULSE.—Dr Petrina shows by means of sphymograph tracings that in certain acutely sensitive persons, or in individuals suffering from disease of the heart, one or two doses, consisting of a half to one syringeful of a 2 per cent. pilocarpin solution, causes a slowing of the pulse and arhythmia. Degeneration of the muscular substance of the heart, compensated disease of the valves, or impediments to the circulation arising in other parts, such as marked emphysema of the lungs, great exudation from the pleura, or high fever, require that great caution should be exercised in the administration of pilocarpin lest collapse should occur (*Deutsches Arch. f. Klin. Med.* xxi. S 416).—*The Practitioner*, January 1879.

TREATMENT OF THE ALBUMINURIA OF PREGNANCY BY JABORANDI.—Dr Langlet, of Rheims, publishes an elaborate account of a case of albuminuria during pregnancy, which he has treated successfully by the administration of jaborandi. The patient, three months advanced in pregnancy, showed the ordinary symptoms of albuminuria. The action of the jaborandi on the salivary glands became apparent on the day of administration. The patient took the drug continuously for a period of sixteen days, during which time the œdema disappeared, and the general symptoms were improved. The albumin was likewise lessened to such an extent that not the slightest trace could finally be detected, and the lying-in occurred under the most favourable circumstances. Dr Langlet has noticed that the administration of the jaborandi caused an increase in the urinary secretion, and this coincides with a somewhat similar observation of M. Render, who found that in a case of acute nephritis the drug caused polyuria. On the fifteenth day of the administration of the drug hæmaturia occurred, so as to give the urine a disagreeable odour and a bright red colour. This accident, which did not retard the recovery, is to be attributed to the excessive work imposed upon the kidney by the increased secretion, leading to congestion, and the congestion to actual hæmorrhage (*Union Médicale du Nord-Est*, No. 6).—*The Practitioner*, January 1879.

ON THE EMPLOYMENT OF DIGITALIS. — Professor Teissier, of Paris, in a recent discussion, said that after a clinical experience of thirty-five years, he had come to the conclusion that there are few affections of the heart in which it is not a suitable medicine, and that it becomes in turn sedative or stimulant according to the condition of the heart. He does not regard either hypertrophy or aortic affections as contra-indicating its employment; and as to the diseases of the right side of the heart, they can but benefit by a remedy which both increases the *vis a tergo*, and increases the nervous circulation. Professor Gubler observed that digitalis is truly a tonic of the heart, although its tonic action may be only indirect. The cases in which it succeeds best are those where the cardiac disorders are most considerable, the increased energy being accompanied by debility of the organ. Every one is aware that, as regards force, there is a great difference between the impulse of the heart and the arterial pulse, all having seen cases wherein, while the heart beats violently, the pulse remains small and feeble. It is in such cases that tonic action is advantageous, digitalis proving useful when the cardiac action is the dominant feature. The true contra-indications are found in the fundamental feebleness of the heart and irregularities of rhythm—what may be termed cardioplegia. Professor Gubler considers that sphygmographic tracings are highly deceptive, the positions of the instrument with relation to the artery entirely changing their character.—*Medical and Surgical Reporter*, 21st December 1878.

THE PHARMACOLOGY OF CAMPHOR.—Carl Wiedmann considers the action of camphor upon the nervous system; he finds that it stimulates the cramp centre in the medulla oblongata, thus giving rise to epileptiform convulsions when administered in large doses. The spinal cord is not influenced by the drug, for the convulsions do not appear after separation of the medulla from the spinal cord even after a dose of 5 grains of camphor. Moreover, in man there is a disturbance of the physical functions, delirium, hallucinations, and giddiness. The action of camphor upon the organs of circulation has been investigated in the frog by Heubner, who finds that it acts as a direct excitant to the heart, since muscarin, a poison, which acts by stimulating the vagus, and so slowing the heart's action, produces no such retardation after the administration of camphor. Wiedmann, basing his experiments upon this observation, has shown that the action of the camphor was due to the direct paralysis of the centres. The blood-pressure is also increased at the commencement of the convulsions if the medulla remains intact, but it has not yet been determined whether the camphor acts by paralyzing the vaso-motor centres of the medulla, but may occasionally have no such influence on the vaso-motor centres of the spinal cord. After section of both vagi in a cat, no rise in the blood-pressure is observable even after a large dose of camphor. The decomposition of camphor in the organism is shown by the fact, that after the administration of 20 grains of camphor daily to medium-sized dogs for twelve to sixteen weeks, there was nothing more than a trace of the smell of the drug perceptible in the urine and fæces. The symptoms of poisoning, which appeared after large doses of camphor, disappeared after a few hours (*Arch. für experi. Path. und Pharmak.* vi. Bd. iii. und iv. Heft, and *Rundschau*, Sept. 1878).—*The Practitioner*, January 1879.

CURARE IN THE TREATMENT OF EPILEPSY.—At a recent meeting of the German Association at Cassell (*Allg. Wien. Med. Zeit.* 1st October), Dr Kunge gave an account of the trials he had made of curare in the treatment of epilepsy. Out of eighty cases treated, six he regarded as cured, the fits having ceased for five years or more. He found that this remedy had a great advantage over the bromides, which only postponed the attack for about half a year. Commencing with doses of a milligramme, and working upwards, he soon found that large doses could be borne. He watched his patients closely after they were administered to observe the effects. The doses to which he attained would excite surprise. Thus, to three grammes of water he added five decigrammes of strychnia, using this for eight injections. The early symptoms of narcosis, such as a little giddiness, and a misty veil before the eyes, passed away in three-quarters of an hour. He soon diminished the above quantity, adding only three decigrammes to five grammes of water and a drop or two of hydrochloric acid, and dividing it into eight injections. No symptoms of poisoning were induced in the cases treated; but it is with this remedy as with strychnia, which exerts no influence if noises in the ears are not produced. So here no effect is produced unless there is a veiling of the vision. An important point to note is, that the cases may be divided into two classes as regards this treatment. First, there are those in which there have been only one or two attacks, or in children, in which a single injection may suffice; but, as a rule, a second attack follows in three or four weeks, and then we should observe what time has passed between the injection and the new attack, taking care to make the new injection before the same period of time again has elapsed (*Medical Times and Gazette*, 2d Nov. 1878).—*The Practitioner*, January 1879.

PERISCOPE OF OTOLOGY.

By J. J. Kirk Duncanson, M.D., C.M., F.R.C.P., and F.R.S., Edinburgh, Surgeon to the Ear Dispensary, 6 Cambridge Street, Lothian Road; Assist.-Surgeon, Eye Infirmary; Lecturer on Diseases of the Ear Edinburgh School of Medicine.

Hearing of Insects.—When travelling on the river Magdalena, New Granada, in 1861, the mode of which is by a long boat, arched over with bamboo, on which the sailors (bogas), passing from one extremity to the other, propel it with long poles, hugging the river bank, accompanied with wild cries and execrations, I observed on several occasions that these cries suddenly ceased, a dead silence following, and, on inquiring the cause, they pointed to nests high up in the trees, whispering the word vispa (wasp). As the bogas pursue their avocations in a state of semi-nudity, they have the greatest dread of these insects, fearing to speak aloud, as their only alternative, if attacked by them, is to plunge into the stream, where alligators abound. The wasp is long, slender, and black in colour.—W. L. Dudley in *Nature*, 26th September 1878.

The Phonomotor.—In fig. 2 we give a diagram which explains the construction of a very clever little contrivance which Mr Edison has invented and christened the phonomotor. Like the phonograph, it has a mouthpiece and a vibrating diaphragm. Attached to the latter is a piece of rubber tubing, which forms a cushion for the spring. At the top of this spring is a little bar called a "pawl," which presses on the ratchet-wheel which is attached to the fly-wheel. On speaking or singing into the mouthpiece, the diaphragm is thrown into vibration, in consequence of which the pawl is able to push round the wheel by a rapid succession of thrusts. In this way the fly-wheel is soon thrown into quick movement, its rapidity of rotation, of course, depending upon the number of vibrations peculiar to the pitch of the voice which actuates the diaphragm. This instrument suggests a new use for chatter-boxes. Instead of interrupting the labours of others as they most commonly do, they will be in positive request as motors. —*The Graphic*, 30th November 1878, page 562.

THE ophthalmological part of the *Archives of Ophthalmology and Otology* is announced as being now under the direction of Dr Knapp, of New York, and Dr Hirschberg, of Berlin. It will be issued quarterly, both in German and in English, and will for the next year be independent of the otological part.

THE *American Journal of Otology*, a quarterly journal of physiological acoustics and aural surgery, edited by Clarence J. Blake, M.D., in conjunction with Professor A. M. Mayer of Hoboken, Dr Albert H. Buck, and Dr Samuel Sexton, of New York, Dr C. H. Burnett, of Philadelphia, Dr J. Orne Green, of Boston, and Dr H. N. Spencer, of St Louis. The *American Journal of Otology* is intended to serve as a medium for the publication of original papers on subjects pertaining to physiological acoustics and aural surgery. The steadily growing interest in that branch of acoustics which has especial reference to the functions of the organ of hearing, and the important bearing which investigations in this comparatively new field of scientific research have upon the development of aural surgery, are put forward as sufficient reasons for uniting the two in one publication. The publishers are William Wood & Co., 27 Great Jones' Street, New York, U.S.A.

PROFESSOR PERSIFOR FRAZER reports, we learn from the *Polytechnic Review*, the interesting observation, that early in last June he tried a telephone with a diaphragm mounted so as to vibrate freely, except in the circular line, where it was bound fast. With several other telephones in circuit, but muffled so that they could not take up the direct vibrations of the voice, he found that the overtones produced in the diaphragm of one telephone, by a musical note sung into the mouthpiece, were reproduced in the others. This shows the extreme minuteness of the motion necessary to produce sound by fluctuations in the transmitting power of the line wire.—*Nature*, 28th November 1878, page 85.

THE following method of measuring approximately the velocity of sound, devised by M. Bischat (*Journal de Physique*), is said to form a suitable lecture experiment:—A white iron tube about 10 m. long is bent back on itself, so that the ends A and B are near each other. A is closed with a caoutchouc membrane; B has a stopper with glass tube, which communicates through a caoutchouc tube of a certain length with one of M. Marey's manometric capsules. Near the end A is an aperture which, by means of another caoutchouc tube the same length as the former, communicates with another of Marey's capsules. These capsules are arranged before a blackened cylinder the ends of their levers applied to it one over the other. A tuning-fork, giving 100 vibrations per second, inscribes these also in the same vertical line on the cylinder. All being ready, a slight blow is given, with the hand or otherwise, to the membrane A, while an assistant turns the cylinder. The capsules register the point of departure and that of arrival, while the tuning-fork gives the time. Thus it is found that between those two points there are, *e.g.*, three vibrations of the tuning-fork, *i.e.*, about $\frac{3}{100}$ of a second have elapsed. The velocity of sound is inferred to be 333·3 m. per second. By means of two iron tubes placed one above the other the difference of the velocities of sound in air and hydrogen may be demonstrated, even though it may be difficult to keep the one tube filled with pure hydrogen.—*Nature*, 28th November 1878, page 86.

THE winter and spring session of the Deaf and Dumb Christian Association of Edinburgh was opened on Thursday evening, 3d October, by Mr Duff, president, with a non-political lecture on "A Peep into Cyprus." Mr James Tait, honorary president, followed on the 17th with a lecture on "Travelling," which was much appreciated for the many useful lessons it contained with regard to economy of travelling expenses. The Deaf and Dumb Temperance Society held its opening meeting on Friday evening the 11th, when encouraging reports of its past and prospective success were given in by the secretary. Its present flourishing condition is evinced by the adoption of a resolution by the members to get up forthwith a library of their own.—*Deaf and Dumb Magazine*, December 1878.

A DUMB DOG.—A deaf and dumb lady living in a German city had as a companion a younger woman, who was also deaf and dumb. They lived in a small set of rooms opening on the public corridor of the house. Somebody gave the elder lady a little dog as a present. For some time whenever anybody rang the bell at the door the dog barked to call the attention of his mistress. The dog soon discovered, however, that neither the bell nor the barking made any impression on the women, and he took to the practice of merely pulling one of them by the dress with his teeth in order to explain that some one was at the door. Gradually the dog ceased to bark altogether, and for more than seven years before his death he remained as mute as his two "companions."—Copied by F. L. Tavaré, Manchester, *Deaf and Dumb Magazine*, December 1878.

PRIMARY EPITHELIOMA OF THE TONSIL.—Mr Lennox Browne exhibited to the Society a man suffering from this disease. He was an engine-driver, aged thirty-nine, who had always enjoyed good health till twelve months ago, when he began to spit a great deal, and to have discomfort in taking his food. Six months ago his wife noticed that the left tonsil was enlarged. When first seen about three weeks ago he had difficulty in swallowing; the left nostril was obstructed; there was pain in the left ear, and he had lost flesh rapidly. A lobulated warty growth was found arising from the tonsil; the tongue, uvula, and pillars of the fauces were free from the disease. Mr Browne had removed large pieces with the galvano-cautery. There was some difficulty in the diagnosis of these cases from syphilitic disease. In this case the patient denied the possibility of his having had syphilis, but it appeared that his wife had miscarried several times, and never had a living child. The following were the main points of distinction between the two diseases:—In syphilis there was no pain except in swallowing; in cancer there was pain at all times. In syphilis there was no hæmorrhage; in cancer there was usually hæmorrhage at some period of the disease; in the patient under consideration, however, there had hitherto been no hæmorrhage. In cancer, moreover, the glands became involved much earlier in the disease than in syphilis; in the patient the glands were already considerably involved. Mr Parker had seen two cases of epithelioma of the tonsil at the London Hospital. In both instances the patients were children. In both the growth was slow, and gradually invaded the organs of respiration, necessitating tracheotomy. Mr Browne replied that the cases narrated by Mr Parker were of great interest to him. He had seen eight cases of malignant disease of the tonsil, and of these eight the present exhibited was the youngest. He had never before heard of disease of this nature in children. He added that last year he ventured to assert his belief that all cases of malignant disease of the tonsil would be found to be lymphosarcoma. His present case proved that he had been too precipitate in making a generalization (*Pathological Society of London*, 3d December 1878).—*British Medical Journal*, 7th December 1878.

EXCESSIVE SECRETION FROM THE NOSE.—The case of watery fluid dropping from the nostril, read by Sir James Paget at the last meeting of the Clinical Society, reminds me of a case of disease of the fifth cranial nerve which was some years ago under my care, and which is published in the *Medico-Chirurgical Transactions* for 1869, vol. lii. page 28. In that case there was, in addition to many other symptoms consequent upon the withdrawal of nervous force from the sphere of the trifacial, an incessant flow of fluid from both nostrils, which, on running down to the lips, made the skin very sore, and caused the moustache to fall out. In consequence of the incessant maceration which went on, the middle portion of the upper lip appeared quite white, like a scar from burning or from the application of sulphuric acid. The same excessive secretion took place in the mouth, and the patient was therefore obliged to keep a pocket handkerchief almost constantly applied to his nose and lips in order to catch the stream of liquid. A handkerchief would become saturated with liquid in a short time. The lips appeared covered with froth, such as we see it in a patient who has just come out of an epileptic attack. Both corners of the mouth were very sore, being macerated by the constant flow. This liquid was slightly alkaline. If we read Sir James Paget's case by the light of the one just alluded to, in which the cause of the flow was manifest, the pathology of it ceases to be so obscure as it was pronounced to be by our eminent *confrère*. The nasal mucous membrane receives its nervous supply chiefly from the ophthalmic branch of the trifacial nerve, and from the spheno-palatine ganglion, the secretion from the mucous membrane being *caused* by the sympathetic, and regulated and *inhibited* by the fibres of the fifth nerve. Remove the inhibitory influence of the trifacial, so as to allow the sympathetic fibres to rule supreme, and you get hypersecretion of liquid, as was plainly seen in my case, where it occurred not only in the nose, but also in the eye and mouth. Sir James Paget's case will therefore probably turn out to be one of injury or inflammation of the nasal twig of the ophthalmic branch of the fifth nerve. Perhaps the "headache" from which his patient suffered shortly before the flow commenced was a symptom of neuritis of that twig. My view of the pathology of this case would be quite established if there should be anæsthesia of the mucous membrane of the nose, or of some portion of it, on the side corresponding to the flow. In my case of anæsthesia of the fifth nerve, the excessive secretion of liquid was eventually checked by the use of the constant voltaic current, under the influence of which the function of the trifacial nerve was to a great extent restored. When the patient was discharged the lips were no longer covered habitually with froth, but appeared quite dry.—Julius Althaus, M.D., *British Medical Journal*, 7th December 1878.

RECENT IMPROVEMENTS IN SCIENCE.—The chrysophone. All musicians are aware that the *timbre* or quality of the voice depends chiefly on the construction of the oral and nasal cavities, the nose and palate acting as sounding-boards, so to speak, to the note originated in the larynx. A well-proportioned chrysophone makes the most ordinary voice as far superior to Grisi's or Mario's as theirs were to the croaking of frogs, and by its means the tenth-rate suburban amateur, singing the last music-hall ballad, can plunge the coldest and most cultivated audience into impassioned ecstacies, and cause the tear to flow from the eye of even the professional critic. *N.B.*—The chrysophone can be so adapted to the human face as to appear a natural prolongation of the nose and mouth, and so coloured and decorated as to be the reverse of unsightly. (Chrysophones made to order for soprano, contralto, tenor, and bass, 85 Fleet Street, E.C.)—See illustrations in *Punch*, 14th December 1878, page 275.

"AN EYE FOR AN EAR; or, Shall the Deaf Mute Hear and Speak?" is the title of an excellent paper on the so-called "oral system" for the education of the deaf mute, as it is being carried on in American institutions with the aid of Professor Graham Bell's "Visible Speech." We earnestly recommend a careful, and it will be found pleasant, perusal of it to all medical practitioners.—See *Scribner's Monthly* for December 1878, page 177.

Surely to no labourers in behalf of humanity can higher meed of praise be due than to those who, with life-long patience, enthusiasm, and courage, devote themselves to the restoration of these disinherited children to a life of companionship among those who both think and speak.—*Isabella T. Hopkins.*

OCCASIONAL PERISCOPE OF DERMATOLOGY.

By W. ALLAN JAMIESON, M.D., F.R.C.P., Lecturer on Diseases of the Skin, Edinburgh School of Medicine.

ANIDROSIS IN XERODERMA.—Lewinson (Diss.: Berlin, 1878) distinctly demonstrated the functional incapacity of the sweat glands in a case of marked xeroderma in Lewin's clinique. An hypodermic injection of 5 millegrammes ($\frac{1}{12}$ gr.) of muriate of pilocarpine produced active transpiration, except on the parts affected with xeroderma, which exhibited no trace of sweating.—*Centralblatt f. d. Medicinische Wissenschaften.* No. 42. 1878.

HERPES ZOSTER following the course of the small sciatic nerve.—Perrond (*Annales de derm. et syph.*, viii. 1, p. 57) records a case of this extremely rare form. The patient, 20 years old, was affected with phthisis on the left side. After smart pain in the left sciatic notch, a small group of vesicles on an erythematous base appeared. Some days after fresh groups formed on the left side of the anus and perineum; later on the inner and posterior side of the left thigh in its upper fifth, and on the left half of the scrotum and penis. These had healed, and the pain was gone in three weeks.—Virchow in *Hirsch Jahresbericht,* xii Jahrgang, 2te, Bd.

BILATERAL HERPES.—Dr Jamison (*Australian Medical Journal*) reports a case of this rare affection. The patient was attacked by nausea and vomiting, accompanied by severe pain in the head.

Four days afterwards red patches appeared on the face, neck, and arms, and shooting pains came on in the chest and between the shoulders. On the forearms the eruption became confluent to such an extent as to cover the outer surfaces continuously. Pressure on either side of the spine, in the cervical and upper dorsal regions, caused severe pain. The eruption dried up in three weeks, but the pains lasted longer, recurring from time to time.—*Archives of Dermatology*, July 1878.

A Case of Peliosis Rheumatica.—Dr W. T. Taylor's case (*American Practitioner*, 1876) is interesting with reference to the asserted nervous origin of purpura. He was called to see a poor woman, 46 years of age, who had been in bad health for several years, experiencing occasional severe attacks of gastritis. The patient was found to be suffering the most acute pain, deep-seated, burning, continuous, accompanied by an eruption of dorso-abdominal herpes zoster, involving the left groin also. The pain lasted two or three weeks after the disappearance of the eruption, and then decreased, while the nerves of the leg and foot became involved. Three or four days after the nervous affection attacked the leg, the foot and ankle of the affected side suddenly became swollen, œdematous, and very tender to the touch, particularly in the neighbourhood of the joint. The next morning a purpuric eruption could be observed about the ankle, which became less swollen, but was still painful, the pain apparently locating itself in this region thenceforward. The eruption soon began to fade away, but a relapse soon took place, accompanied by the same symptoms, preliminary swelling, etc., and a series of relapses occurred with the same interval between, the eruption mounting higher with each relapse, until the entire leg became involved, and the affection lasted in all seven months. Towards the last the joints of one hand became stiff and swollen, but this passed away within a few days. Examination of the heart showed mitral regurgitation.—*Archives of Dermatology*, July 1878.

A Case of Unilateral Sweating.—Dr Apolant gives an account of an instance. A. Sch., 20, servant, never remembers having been ill, complains that for many years the perspiration drops from the right side of her face, while the left remains dry. This was confirmed by observation, the secretion ceasing at the median line. On other parts of the body the secretion was symmetrical. The cheeks were equally and normally coloured; there was no difference in sensibility, as tested by the æsthesiometer; the pupils were equal, and reacted uniformly to light; there was no ascertained difference in temperature. The case is interesting with reference to the physiological inquiries of Luchsinger, Nawrocki, and Adamkiewicz, that it seems to point to the sweat-innervation not proceeding from a single central point.

Atropine administered internally gave temporary relief.—*Berliner Klinische Wochenschrift*, 25th November 1878.

TREATMENT OF LUPUS.—M. Hillairet (*Le Progrès Médical*, Oct. 12), after some remarks on the general treatment of lupus, speaks thus of local measures:—The plans at the present time most employed are the scraper and linear scarifications. Volkmann invented the scraper, and published his proceedings in 1870. It consists in scratching the surface of the lupus with curettes of different shapes, but generally of small dimensions. It is necessary, in order to aid the action of the instrument, to raise up all the lupoid tissue, and one may be satisfied with the result when the curette comes upon more resisting parts,—this is healthy tissue; the operator should then stop. It is generally necessary to repeat the operation one or more times a month, until the healing of the lupus is complete. Volkmann and Hebra both advise cauterization of the scraped surfaces with nitrate of silver. This method of Volkmann's gives very good results, but it is not applicable to all cases of lupus, and I more often employ linear scarification. To practise this a needle slightly flattened, with sharp edges, may be used. On following the example of Balmanno Squire, a scarificator with numerous blades, which he has expressly constructed, may be used. Personally, I find the needles most easy to manage, and I make the linear incisions separated by a few millimetres. I place my incisions in such a way that some are perpendicular to the others; and I repeat the operation one or two times a month, till the lupus is well. I have obtained by this practice very good results; and I believe that this method is destined to be of great service. It offers one inconvenience, that is, it gives rise to hæmorrhage, which may be very abundant, and in patients with frail constitutions this may be injurious. I should say a great deal of this loss of blood may be avoided by applying to the lupoid surfaces before operating some convenient anæsthetic, and afterwards by the immediate use of perchloride of iron. This may be simply done by means of a piece of blotting paper, as recommended by Balmanno Squire. Another recommendation of linear scarification is, that it can be more easily and more promptly repeated than cauterization.

Perhaps the surgical treatment may appear too energetic for a disease which often at the onset seems but trivial. But there should be no hesitation in employing it, for it should be remembered that an essentially rebellious affection has to be contended with,—one that is always progressing, though but slowly, and is apt to leave deforming cicatrices, and capable of rendering those unfortunates who are attacked objects of repulsion and of horror to their fellow-beings.—*The London Medical Record*, 15th November 1878.

DUHRING ON INFLAMMATORY FUNGOID NEOPLASM.—Under this name Dr Duhring ("Report of the American Dermatological Association, 1878," *Chicago Medical Journal*) describes a case in which tumours appeared suddenly in the skin of a woman,—new tumours continually appearing, whilst older ones disappeared. The tumours were of a raspberry colour, tense, containing no pus, tuberculated, and furrowed. All portions of the body were invaded. The patches were of different sizes—from a split-pea to an egg—sometimes fungoid, soft, or firm—lobulated even in the flat portions—smooth or rough—crusted or not—without symmetry. Two similar cases have been previously described—one by Hebra and one by Hans Hebra.—*London Medical Record*, 15th November 1878.

CLASSIFICATION AND NOMENCLATURE OF SKIN DISEASES ADOPTED BY THE AMERICAN DERMATOLOGICAL ASSOCIATION, August 29, 1878:—

CLASS I.—DISORDERS OF THE GLANDS. 1. *Of the Sweat Glands:* Hyperidrosis; Miliaria crystallina; Anidrosis; Bromidrosis; Chromidrosis. 2. *Of the Sebaceous Glands:* Seborrhœa (*a.* oleosa, *b.* sicca); Comedo; Cyst (*a.* Comedo, *b.* Wen); Molluscum sebaceum; Diminished secretion.

CLASS II.—INFLAMMATIONS. Exanthemata; Erythema simplex; Erythema multiforme (*a.* papulosum, *b.* bullosum, *c.* nodosum); Urticaria; Dermatitis[1] (*a.* traumatica, *b.* venenata, *c.* calorica); Erysipelas; Furuncle; Anthrax; Phlegmona diffusa; Pustula maligna; Herpes (*a.* facialis, *b.* progenitalis); Herpes zoster; Psoriasis; Pityriasis rubra; Lichen (*a.* planus, *b.* ruber); Eczema (*a.* erythematosum, *b.* papulosum, *c.* vesiculosum, *d.* madidans, *e.* pustulosum, *f.* rubrum, *g.* squamosum); Prurigo; Acne; Impetigo; Impetigo contagiosa; Impetigo herpetiformis; Ecthyma; Pemphigus.

CLASS III.—HÆMORRHAGES. Purpura (*a.* simplex, *b.* hæmorrhagica).

CLASS IV.—HYPERTROPHIES. 1. *Of Pigment:* Lentigo; Chloasma (*a.* locale, *b.* universale). 2. *Of Epidermal and Papillary Layers:* Keratosis (*a.* pilaris, *b.* senilis); Callositas; Clavus; Cornu cutaneum; Verruca; Verruca necrogenica; Xerosis; Ichthyosis; Of nail; Hirsuties. 3. *Of Connective Tissue:* Scleroderma; Sclerema neonatorum; Morphœa; Elephantiasis Arabum; Rosacea (*a.* erythematosa, *b.* hypertrophica); Frambœsia.

CLASS V.—ATROPHIES. 1. *Of Pigment:* Leucoderma; Albinismus; Vitiligo; Canities. 2. *Of Hair:* Alopecia; Alopecia areata; Alopecia furfuracea; Atrophia pilorum propria. 3. *Of Nail.* 4. *Of Cutis:* Atrophia senilis; Atrophia maculosa et striata.

CLASS VI.—NEW GROWTHS. 1. *Of Connective Tissue:* Keloid;

---

[1] Indicating affections not properly included under the titles of this class.

Cicatrix; Fibroma; Neuroma; Xanthoma. 2. *Of Vessels:* Angioma; Angioma pigmentosum et atrophicum; Angioma cavernosum; Lymphangioma. 3. *Of Granulation Tissue:* Rhinoscleroma; Lupus erythematosus; Lupus vulgaris; Scrofuloderma; Syphiloderma (*a.* erythematosum, *b.* papulosum, *c.* pustulosum, *d.* tuberculosum, *e.* gummatosum); Lepra (*a.* tuberosa, *b.* maculosa, *c.* anæsthetica); Carcinoma; Sarcoma.

CLASS VII.—ULCERS.

CLASS VIII.—NEUROSES. Hyperæsthesia (*a.* Pruritus, *b.* Dermatalgia); Anæsthesia.

CLASS IX. — PARASITIC AFFECTIONS. 1. *Vegetable:* Tinea favosa; Tinea trichophytina (*a.* circinata, *b.* tonsurans, *c.* sycosis); Tinea versicolor. 2. *Animal:* Scabies; Pediculosis capillitii; Pediculosis corporis; Pediculosis pubis.

Part Fifth.

THE BOSTON SOCIETY FOR MEDICAL OBSERVATION

MEDICAL NEWS.

THE EUCALYPTUS.—Drs Mosler and Goeze report some interesting experiments which have been made on the cultivation of the *Eucalyptus globulus* in Greifswald, which have proved most satisfactory. Malarious diseases used to predominate in that city. They have been less frequent since the old walls were pulled down and the moats dried up; but the tendency still exists. During last winter, cuttings of the plant were planted in pots in the wards of the University Hospital. Most of these throve very well, and could be transplanted into the garden in the following summer—a few only died owing to the influence of the gas in the wards. The experiment has been repeated this winter with a larger number of cuttings, and has answered equally well. The plants are carefully watered and protected as much as possible from the influence of the gas. When a larger number is kept in one room, a pleasant aromatic odour is noticed, which is very agreeable to the patients, as it neutralizes the unpleasant smells of the ward. Many plants have also been bought by the inhabitants of Greifswald, who use them as a sort of disinfectant in their houses, which have to be very carefully protected from the cold during the long winter months. The most important question was, however, to find out whether the severity of the climate would not prove a serious impediment to the outdoor cultivation of the eucalyptus. Twelve cuttings, from two to three and a quarter inches in height, were accordingly planted in the hospital grounds during June. In the beginning of November they had reached a height of about three to five feet, and had put forth many branches and healthy leaves. They have been taken out of the ground, and are going to be kept in the wards during the winter. Next summer the experiment will be repeated with them, as it is thought that, in analogy with other green plants, they will, after three or four years, be strong enough to remain out of doors during the cold season. It has, however, been proved by the above experiments that, notwithstanding the cold winds which prevail in Greifswald, from its situation near the Baltic Sea, and the long winter, which lasts from four to six months, the *Eucalyptus globulus* thrives out of doors during six months of the year, and even grows very rapidly. This will, doubtless, prove beneficial to the soil and counteract malaria.—*British Medical Journal,* 14th December 1878, p. 886.

A letter was read from the Rev. David Landsborough, Kilmarnock, in which he gave an interesting account of the growth of New Zealand and Japanese plants planted by him in the open air at Corrie and Brodick, Island of Arran. The tree-ferns were growing luxuriantly, and *Dicksonia antarctica,* with a girth of stem of 24 inches, had fronds 5½ feet long and 22 inches broad. The other sub-tropical tree-ferns were *D. squarosa* and *Cyathea nedullaris.* A *Despontania spinosa* was 6 feet in height, and flowered beautifully every summer. There were also three different varieties of the eucalyptus gum tree, from 16 to 24 feet in height, though only planted in 1872 (Botanical Society, 12th December 1878).—*Scotsman,* 13th December 1878.

CORRESPONDENCE.

To the Editor of the Edinburgh Medical Journal.

SOMNAMBULISM.

SIR,—A comparison of the following case with that published in the December No. of the *Journal* may be of interest. It is from the *London Journal* of 23d May 1846, having been copied from the *New York Mirror*, being headed "Somnambulism and Murder." "In the case of Tirrel, now on trial for the murder of Maria Bukford at Boston, the novel defence of somnambulism set up by his counsel is exciting no little curiosity and sensation."

Mr Merril, the counsel, states "that the prisoner at the bar was subject to fits of somnambulism from his youth, which showed itself not only in harmless acts, but also in those which were violent, such as attacks on his wife and other individuals while in this state. Many of these instances he named, and said he should prove." He did not admit the homicide, but believed that Tirrel was in that state "on that horrible night." "He also argued that the disease was connected with insanity, and gave the usual warning to the jury as to their verdict."

As evidence, Tirrel's mother stated that he was then twenty-two years old, and had been a sleep-walker from five years of age. The first time he got up he went to a neighbour's house. He often got up, and had to be soundly shaken to awake him. He once tore down a curtain, broke a window, and cut his hands. "He seemed exhausted when he came out of these fits. Sometimes he took precautions himself against such accidents when in this state." He made a strange distressed noise when in the fits.

His brother confirmed this, stating he got up about twelve times a year. "Sometimes he spoke rationally, sometimes not."

One witness, among others, saw him walking in his sleep one night in his night-dress, and Maria Bukford "sang out" that he was asleep. Several of the witnesses spoke of the "strange unearthly noise made by him when asleep."

Thus this man was a confirmed somnambulist, like Simon Fraser. Nothing is said as to family history.

As many people are once or twice in their lives somnambulists, and no bad after-effects are ever observed in them, it can hardly be said that somnambulism is always the effect of brain disease. There only appears to be some peculiar temporary vaso-motor disturbance causing, as Anstie has pointed out there is, deeper unconsciousness than in ordinary sleep, while the power of co-ordinating movements remains.[1] But that all responsibility for such acts as are done in such a state is abrogated, must be at once admitted, when the astuteness with which somnambulists will succeed in overcoming precautions for their own safety, taken by others with their own waking consent (Anstie), is considered.

In confirmed cases there is no doubt it is to be looked on as a state of brain disease, allied to and sometimes preceding epilepsy,[2] the somnambulism continuing up to and the epilepsy following puberty.—I am, yours faithfully,

W. MUNRO, M.D.

102 EARL STREET, BROUGHTON,
MANCHESTER.

PUBLICATIONS RECEIVED.

Dr F. BEELY,—Zur Behandlung einfacher Fracturen der Extremitäten mit Gyps-Hanf-Schienen. Konigsberg, 1878.

ALEX. WYNTER BLYTH, M.R.C.S., F.C.S.,—Manual of Practical Chemistry. Charles Griffin & Co., London, 1879.

E. MARLETT BODDY, F.R.C.S.,—Hydropathy. L'aillière, Tindall, & Cox, London, 1879.

W. BRAITHWAITE, M.D., & JAMES BRAITHWAITE, M.D. Lond.,—Retrospect of Medicine. Vol. LXXVIII. Simpkin, Marshall, & Co., London, 1879.

HENRY DAY, M.D.,—Ozone, in Relation to Health and Disease. J. & A. Churchill, London, 1878.

J. MATTHEWS DUNCAN, A.M., M.D., etc.,—Papers on the Female Perineum. J. & A. Churchill, London, 1879.

---

[1] *Lancet*, vol. i. 1873, p. 39.

[2] Conolly, *Lancet*, vol. i. 1846, p. 149.

Jonathan Hutchinson, F.R.C.S.,—Illustrations of Clinical Surgery. Fasc. XIII. J. & A. Churchill, London, 1878.

K. N. Macdonald, M.D.,—Practice of Medicine among the Burmese. Maclachlan & Stewart, Edinburgh, 1879.

Morell Mackenzie, M.D. Lond.,—Diphtheria: Its Nature and Treatment. J. & A. Churchill, London, 1878.

New Sydenham Society,—Lexicon of Terms used in Medicine and the Allied Sciences, Part I. London, 1878.

C. E. Ormond Semple, B.A., M.B.,—Aids to Therapeutics and Materia Medica. Part I. Baillière, Tindall, & Cox, London, 1878.

——— Outlines of Medicine. Baillière, Tindall, & Cox, London, 1878.

The Family Physician. Cassell, Petter, & Galpin, London, 1879.

Transactions of the American Otological Society. Vol. II. Part 2. Houghton, Osgood, & Co., Boston, 1878.

Edward Woakes, M.D.,—On Deafness, Giddiness, and Noises in the Head. H. K. Lewis, London, 1879.

PERIODICALS RECEIVED.

American Journal of the Medical Sciences,—Oct.
American Journal of Obstetrics,—Oct.
Analyst,—Nov.-Jan.
Annales d'Oculistique,—Sept.-Dec.
Archives Générales de Médecine,—Nov.-Jan.
Archives de Tocologie,—Oct.-Jan.
Archives of Dermatology,—Oct.
Berliner Klin. Wochenschrift,—Oct. 28-Jan. 20.
Birmingham Medical Review,—Jan.
Births, Deaths, and Marriages, Monthly Return of,—Oct.-Dec. Quarterly Return,—Sept.
Book Analyst,—Nov.
Boston Medical and Surgical Journal,—Oct. 10-Jan. 9.
Brain,—Oct.
British Medical Journal,—Oct. 26-Jan 25.
Bulletin Général de Thérapeutique,—Oct. 30-Jan. 15.
Centralblatt für Chirurgie,—Oct. 26-Jan. 18.
Chicago Journal,—Nov., Dec.
Delhi Gazette,—Nov. 29.
Detroit Lancet,—Oct.-Dec.
D'Ophthalmologie,—Oct.-Jan.
Dublin Journal of Medical Science,—Nov.-Jan.
France Médicale,—Oct. 26-Jan. 18.
Gazeta Medica da Bahia,—Sept., Oct.
Gazette des Hôpitaux,—Oct. 22-Jan. 21.
Gazette Hebdomadaire de Médecine,—Oct. 25-Jan. 17.
Gazette Médicale de Paris,—Oct. 26-Jan. 18.
Gazette Médicale de Strasbourg,—Nov.-Jan.
Giornale Internazionale,—Oct., Nov.
Glasgow Medical Journal,—Nov.-Jan.
Indian Medical Gazette,—Oct.-Dec.
Journal de Thérapeutique,—Oct. 25-Jan. 10.
Journal des Sciences Médicales de Lille,—Nov.
Journal of Anatomy and Physiology,—Oct.
Journal of Nervous and Mental Disease,—Oct.
Journal of Mental Science,—Jan.
Journal of Psychological Medicine. Vol. IV. Part II.
Journal of the Scottish Meteorological Society,—Nos. 55, 56.
Kings, U.S., Proceedings of Medical Society of County of,—Nov.-Jan.
Klinische Monatsblätter für Augenheilkunde,—Nov.-Dec.
La Semaine Francaise,—Dec. 7.
Lancet,—Oct. 26-Jan. 25.
London Medical Record,—Nov.-Jan.
L'Année Médicale,—Oct.-Dec.
L'Art Dentaire.—Dec.
Lecciones Clínicas y Noticias Médicas,—Nov. 15.
Medical Press and Circular,—Oct. 23-Jan. 22.
Medical Times and Gazette,—Oct. 26-Jan. 18.
Medical Tribune,—Nov., Dec.
New Preparations,—Oct.
New York Medical Journal,—Dec., Jan.
New York Medical and Surgical Brief,—Dec.
New York Medical Record,—Nov.
Nordiskt Medicinskt Arkiv,—Band x., Nos. 15-27.
Obstetrical Journal,—Nov.-Jan.
Onderzoekingen gedaan in het Physiologisch Laboratorium der Utrechtsche Hoogeschoole,—Derde Reeks, 5, 2de Aflevering.
Philadelphia Medical and Surgical Reporter,—Oct. 5-Jan. 4.
Philadelphia Medical Times,—Oct. 12-Dec. 21.
Pictorial World,—Nov. 30.
Practitioner,—Nov.-Jan.
Progrès Médical,—Oct. 26-Jan. 18.
Quarterly Journal of Inebriety,—Dec.
Revue Médicale,—Jan. 14-18.
Revue d'Hygiène,—Jan. 15.
Revue de Thérapeutique Médico-Chirurgicale,—Nov. 1-Jan. 1.
Sanitarian,—Nov.
Sanitary Record,—Oct. 25-Jan. 17.
Sanitary Register,—Nov.
St Louis Clinical Record,—Nov., Dec.
Southern Clinic,—Nov.
Virchow's Archiv,—Oct.-Dec.

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION

Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Observations on some Forms of Sterility and on Placenta Prævia in First Labours: with illustrative Cases.* By ALEXANDER RUSSELL SIMPSON, F.R.S.E., Professor of Midwifery and the Diseases of Women and Children in the University of Edinburgh.

(*Communicated to the Obstetrical Society of Edinburgh*, *22d January* 1879.)

I BEGIN with the history of two patients whom I shall designate Mrs A. and Mrs B., whose cases led to my offering this communication. They have this in common, that they were both elderly primiparæ, and their labours were complicated with placenta prævia. The one occurred in my own practice, the other five days earlier in the practice of my assistant, Dr Hart.

Afterwards, by way of commentary on these cases, I offer some observations on the following topics which they illustrate:—

I. Sterility from Persistence of the Hymen and from Retroflexion of the Uterus.

II. The Peculiarities of the third stage in cases of Placenta Prævia.

III. The Remote Results of Hæmorrhage during Labour.

IV. The Relations of Placenta Prævia to Primiparity, as to, 1, its Causation, and, 2, its Results in Primiparous as compared with Multiparous women.

THE CASES.

CASE I. *Anamnesis.*—MRS A. consulted me for the first time in April 1877. She stated that she was thirty-five years of age; had been married for four years; had never conceived; always suffered pain in the pudenda when coition was attempted; and for some time past had begun to lose more than the usual amount of blood at the menstrual periods, which were now also coming on at shorter intervals, and that she was falling off in her general health.

Physical Diagnosis.—When I attempted to introduce a finger through the vaginal orifice, I felt that the aperture was still obstructed by an unruptured hymen, and the expression of suffering elicited from the patient made it necessary first to inspect the pudenda. They were everywhere normal and healthy, except that the hymen itself was unusually vascular, and the surface of the navicular fossa at its base was irritated and partly abraded. Exercising a little more gentleness, I was now allowed by the patient to pass the finger through the hymeneal aperture until I could reach the roof of the vagina. The os and cervix uteri were normal, but in the posterior fornix I felt a rounded body which, on combined palpation from above, I judged to be the fundus of the enlarged and retroflected uterus. I did not then use the sound, nor did I think it necessary to form a definite diagnosis as to the uterine condition, because the indication for present treatment was clearly to remedy the mischief lower down, and because the examination with fingers or sound could not be conducted without causing unnecessary suffering. Noting therefore the displacement, but writing "myome?" as well in my note-book, because the age of the patient and the absence of any traceable cause for the dislocation left me somewhat in doubt, I proceeded at once with the

Treatment.—Lubricating the finger afresh with soap and warm water, I passed first the index through the orifice, and then gradually insinuated the middle finger alongside of it till the aperture was fairly permeable. The patient was instructed to use large sized pessaries of iodide of lead vaginally, and to take ergot of rye internally. The dyspareunia completely disappeared. The menorrhagia was checked by the ergot, which the patient at first took for four weeks, and for some months afterwards for a week at a time during the menstruation. In the intermenstrual intervals she was put on small doses of arsenic. Her general health improved; the menstrual cycles were prolonged to nearly their normal four weeks; marital intercourse was carried on healthily; but the sterility remained.

Four months had elapsed, and the uterus still being large and retroflected, I replaced it on 13th August with the sound. The following day the uterus was found to have fallen back into its abnormal position. I therefore again replaced it, and introduced a vulcanite vaginal Hodge pessary, with the view of retaining it in its proper position. The day after the uterus and pessary were in good position, and the patient was instructed to go on wearing it. With the view of promoting uterine contraction and disgorgement, and improving further the patient's strength, she used for some weeks pills containing ergotin, extract of nux vomica, and chlorate of potash. From the 23d to the 27th of March in 1878 she menstruated for the last time. She had conceived. I saw her from time to time during her pregnancy, which progressed without any unusual symptoms till towards the close, which was expected in the last week of December.

The Labour.—Early in the morning of the 9th, however, I was called to see her, as she had been wakened during the night by an escape of blood from the vagina. The fundus uteri was still high up in the abdominal cavity. The outlines of the fœtus could be felt through the abdominal and uterine walls, the head lying at the brim of the pelvis, and the back of the child towards the right side of the mother. Auscultation confirmed the diagnosis that the fœtus was placed in the right occipito-posterior position. The patient's bedclothes and bedding were widely stained with blood, and so were the external genitals. There was no fresh blood, however, in the vagina. The external os barely admitted the tip of the finger; but the diagnosis of placenta prævia was made not only from the unprovoked escape of blood, but from the thickened feel of the lower internal segment through which, without the external examination, it would have been impossible to make out the presenting head of the child. The patient was kept in bed for five days, as there was a slight threatening of hæmorrhage on the 11th, and thereafter she remained more or less recumbent on a sofa in her bedroom, or in the drawing-room, which was on the same flat. At six o'clock on the morning of the 19th I was again sent for. There had taken place a very profuse flooding, which alarmed the patient, and made her feel faint. The whole uterus had now settled down a little into the pelvic brim. The fœtal heart was active, and the fœtus was still in the right occipito-posterior position, with the head presenting. The soft canals were more relaxed, and undergoing vital dilatation. The cervix was easily permeable to the finger, which found its upper extremity entirely occupied by placental tissue. The uterus had begun to act, but the pains were feeble and the intervals prolonged. But when, with stronger pains, there began between 7 and 8 a new flow of blood, though of slight extent, I introduced the largest size of Barnes's dilators into the vagina, and distended it to its utmost with warm water. The contractions became more vigorous and frequent, and no blood flowed past the tampon. Between 9 and 10 Dr Hart came to assist me, and to take my place while I went to lecture. At this time I removed the large vaginal dilator. Its removal was followed by the escape of some clots and a quantity of serum. The cervix had become more expanded, and a bare portion of the membranes could be felt towards the right side, corresponding to about a third of the dilated orifice. Five grains of ergotin were now injected hypodermically. The second largest of the Barnes's dilators was carried through the os internum. During the introduction some hæmorrhage occurred from partial detachment of the placenta. The bag was quickly distended to an extent sufficient to make it fill and stretch the canal. From time to time more water was thrown into it, and when I returned after lecture soon after noon, finding it dilated to its utmost capacity, we removed and replaced it with the largest sized one. The fœtal heart was still beating normally, though the mother's pulse had already become frequent and weak.

The large bag having been distended to its utmost, the uterine action being regular, though not very strong, and the parturient canals sufficiently dilated and relaxed to allow of the active interference which was demanded by the tendency to recurrence of the hæmorrhage, the patient, who had already breathed some chloroform to relieve the pain caused by the introduction and pressure of the hydrostatic dilators, was now more completely narcotized. Judging, whilst the mother lay on her left side, and the face of the child was turned in the same direction, that the right hand would most naturally pass along the anterior aspect of the child, I chose it for internal manipulation. In passing into the cavity of the uterus ~~ovum,~~ I made my way partly through membranes and partly through the placenta, the 2½ inches deep rent in the margin of which still remains. There was no difficulty in seizing and bringing down the left leg, and effecting the version of the child. Considerable tractile force, however, required to be applied to bring down the breech, with the right leg folded on the abdomen through the passages. The cord was still pulsating, but feebly, when the trunk was exposed. The arms had gone up by the sides of the head. As the child was making attempts at inspiration, the arms were quickly freed, and the head easily followed, steady pressure being kept up on the fundus uteri by Dr Hart. When fairly born the child seemed to be quite still, and the heart-beat was slow and weak. Under friction of the chest it at last made a feeble effort at inspiration, but no air entered the tubes. It was suspended by the heels, and whilst the throat was being cleared out in this position it made another and more successful effort. The head and heels were alternately elevated and depressed until it had made inspirations enough to make us feel sure that the blood was getting aerated. It was laid on its back, and allowed to breathe quietly, until of itself it began to cry. All this at the edge of the bed before its complete separation from the mother. The cord was now tied and divided. Meantime another subcutaneous injection of five grains of ergotin had been administered to the mother, as the uterine walls remained flaccid, and a slight but continuous escape of blood was going on. Some fifteen minutes or more had elapsed since the birth of the child, and it was disappointing to find that no progress was making with the third stage. Powerful compression of the uterus through the abdominal walls, which so rarely fails to give us the placenta, failed here, so that the hand had to be once more introduced into the uterus to detach it. I was surprised to find the placenta area so extensive that the upper border of it reached high up the left side and posterior wall of the uterus, and remarked that to this wide extent of the placenta it was probably owing that the vitality of the fœtus had been sustained. After I had got the placental mass lying loose in the right hand, I still kept it for a considerable time in the interior of the uterus, and continued to compress the fundus with the left hand until the uterus began to contract steadily and strongly enough to expel all its contents. A third subcutaneous dose of five grains of ergotin was administered during this time, and after the uterus was emptied it contracted firmly, and there was no further notable hæmorrhage. It was now seen that the perineum had been torn back close, but not in to the anus. There was also a trifling laceration, or rather two, in the cervix uteri, but not more than we may see in any first labour, and less than we often meet with in natural labours. Two metallic stitches were introduced pretty deeply through the perineum, and secured at the skin surface. It was now 2 o'clock when the patient was tidied and left to rest. She was quite blanched, and very prostrate, and the pulse rapid and weak, but quite steady.

The Puerperium:—*19th December, Vesp.*—Pulse 120; temp. 101°. Has taken milk and beef-tea. Urine drawn off with catheter.

22d December.—Pulse 120; temp. 102°. *Vesp.*—Pulse 120; temp. 103°. Some tenderness over abdomen. To get turpentine stupes, and 1 mm. aconite every hour.

23d December.—Marked tympanitis, but no great pain. Pulse 120; temp. 103°. To have local treatment continued, and to take 8 mm. of turpentine thrice daily in milk. Milk and beef-tea to be continued, and a tablespoonful of brandy given every hour. *Vesp.*—Pulse 120; temp. 104°. Ten grains of quinine given.

24th to 28th.—Same as 23d. Evening temperature still 104°, and unaffected by quinine. Some diarrhœa on 27th; checked by lead and opium pills. To get aconite instead of quinine.

29th, Vesp.—Seems easier, and temperature now 102°; pulse 108. Tympanitis continues.

30th December to 3d January.—Improvement now steady, and temperature falling.

During the first three or four days morphia was given at night. On the 24th the amount of brandy was doubled. Quinine seemed to have little effect on the temperature. Aconite was much more useful, as seen by record of 29th. There was never any pulmonary nor cardiac disturbance. Urine was made freely, but generally with pain.

From this point on, the patient had a rapid convalescence. The only drawback was that on 1st January, the day when she first was taken into the dining-room, she had pain in the calf of the left leg, and a wooden feeling in all the muscles, which made me apprehensive of phlegmasia. Under careful massage, however, and the administration of tincture of the muriate of iron, the threatening passed off, and she is now quite well.

As for the infant, it ought to be recorded, that the day after its birth its left leg was found to be greatly swollen; there were abrasions of the skin above the malleoli, and the limb hung stiffly from the pelvis. I was satisfied that there was no injury in bone or joint; but I believe that laceration of some of the structures in the upper third of the thigh had taken place. The swelling was there very great, so that the skin became quite tense, and it looked blue, as from ecchymosis underneath. For a week the limb remained swollen and straight, but the swelling gradually subsided. The muscular power of the limb was restored, and now the infant, which is thriving on the milk of a wet nurse, moves the legs as naturally as if no damage had ever been sustained.

The history of the next patient I give in the words of Dr Hart.

Case II.—Mrs B, æt. 37, married in January 1878, was first seen and treated by Dr Simpson for endometritis and left perioophoritis in the end of the same month. Under suitable treatment the inflammation subsided. She was seen again in May, when she was found to be two months pregnant. During her pregnancy there was nothing unusual unless occasional attacks of acute bronchitis. On 10th December I was sent for, and found that a day or so before she had passed some blood *per vaginam*, owing, as she thought, to the violence of her cough. External palpation showed that the head was at the brim, with back to right side. No fœtal heart sound was audible. On vaginal examination the cervix was touched with difficulty, the os was found small, and the head could not be felt. She was ordered to take rest, and sedatives were given to allay the violence of the cough. After that she was seen every day, but no more bleeding occurred until the 15th, when she suddenly lost a considerable quantity. I saw her soon after, and found the vagina full of clots. There were no irregularities in the uterine wall, but the cervix was suspiciously boggy. A sponge-tent was introduced with difficulty into the os, which was only about the size of a pea. Dr Simpson saw her then, but was unable to pass his finger into the os owing to the presence of the tent. He remarked on the bogginess of the lower segment of the uterus and other features in the case as pointing to placenta prævia. The sponge-tent was left in for twelve hours, and when removed the os easily admitted three fingers. The placenta was then found lying partially over the os internum at the left side. Barnes's dilators were now used, and at four o'clock on Monday afternoon I turned by the bipolar method and brought down a leg. Repeated auscultations had failed to catch the fœtal heart, and I therefore did not extract at once, but left the case under Dr M'Watt's charge so as to allow the parts to dilate well. At eleven o'clock no progress had been made in the labour, and therefore, while the patient was under chloroform, I passed up my hand and found that the other leg had become doubled up in the brim and thus caused the delay. It was brought down and the child extracted with difficulty. After waiting for about fifteen minutes, and employing manual compression to the uterus, the placenta did not descend. On examination I found it adherent in about its upper two-thirds, and accordingly had to separate it manually. After this there was no bleeding, and the patient made a good recovery, delayed somewhat, however, by her bronchitis.

COMMENTARY.

There are, as I have indicated, four points in these cases, and more particularly in the first of them that seem worthy of special remark.

I. STERILITY.—The causes of sterility in a woman, who has been married for some years without conceiving, may lie in any of the planes of the sexual apparatus. Not unfrequently more than one source of difficulty can be found in the same individual. Of this our patient affords a simple illustration.

1. *Persistence of the Hymen.*—This lady had been married for four years when I first saw her, and up till that time complete connection had never taken place. We all know that conception may follow a coitus where the hymen is unruptured, and the accoucheur may find the aperture still narrow when labour supervenes. Such cases are recorded and referred to in the last fasciculus of our *Transactions*, in a paper by Dr James Young, and the discussion which followed. These, however, are usually cases of illicit intercourse, where improper familiarities were permitted to an extent which the female, at least, believed to be safe. Even in such cases, where the process is repeated from time to time, the hymeneal orifice may become well dilated, although the borders of the membrane have never been infringed. Not long ago I was consulted by a young lady whose friends were getting anxious about her health, because she had passed six months without altering. She had permitted her lover, to whom she had been engaged for three years, to indulge in such liberties as I allude to, with the result that the orifice had gradually become dilated, and though she was sure that there was nothing amiss with her, because she had never lost blood, she was already six months pregnant. Instances of conception with undilated hymen are almost unknown in the case of married women, and in a considerable proportion of cases of sterility we must set down the sterility as due simply to the permanence of the hymen. This permanence may have various causes apart from rigidity, natural or morbid, of the hymeneal tissue.

1*st*, *Ignorance.*—The married pair may be simply ignorant of their mutual marital duties. Many years ago I attended a lady in Glasgow in her first confinement, who had been some length of time married before she ever conceived. She had come to my friend Dr Drummond thinking that she must be the subject of some abnormality. He found the organs all normal, but absolutely virginal, and the patient expressed some astonishment when her physician asked if her husband had never attempted to effect an entrance into the vagina. She conceived soon afterwards, and I attended her in that and in her two subsequent labours.

2*d*, *Partial Masculine Impotence.*—A hymen of ordinary structure may resist the efforts at penetration of a husband with diminished virile powers. Three years ago I saw a lady of 32, who had been married for thirteen months to a husband upwards of 50, who had never previously been married. She wished to know why she had not conceived. There seemed to be no other cause than the persistent hymen. I dilated the orifice with a set of rectum bougies, and she conceived within a month, suffered from an early abortion, but again conceived and came to town, and was delivered at the full term of a male child that presented by the breech.

3*d*, *Awkward Connexion*. — There is a third and far more frequent class of cases where the persistence of the hymen is due to what I can only designate awkward connexion. The husband makes his approach without taking any pains to call up so much as desire on the part of the wife, in whom the parts are still flaccid and dry, and he attempts to effect an entrance without producing any friction of the sensitive external organs. The result in such cases is the production of so much suffering to the female that an unselfish husband suspends his efforts, leaving the navicular fossa tender and irritable, and under a repetition of the process the structures may become so sensitive to pain that the wife dreads his embrace. Such I take to have been the explanation of the condition I found in the case before us.

It is sufficient to indicate the conditions under which the persistence of the hymen prevents conception. The treatment in all such cases is clear. The orifice must be more or less effectively dilated by mechanical means, or guidance given for its effectual physiological dilation, and the difficulty is at an end. Only in the third group the use of some soothing pessaries or emollient injections may be required to heal the injured surface. In the case of Mrs A., the passing of two fingers through the vaginal orifice, and the use of some iodide of lead pessaries, sufficed to effect a cure of the hymeneal disorder, and the process, which was a pain or an aversion to the patient, became not only tolerable but pleasurable. The uterine difficulty, however, remained. Four or five months were allowed to elapse, and though coitus was now correctly carried out the sterility remained because of—

2. *The Retroflexion of the Uterus.*—One might write a book on the conditions of this central organ of the sexual system which are hostile to reproduction. I only invite attention at present to the condition which kept up the sterility in our patient—the backward displacement of the uterus. I do this all the more urgently that the subject of uterine dislocations is one which a certain group of respectable gynecologists pride themselves in slighting, or even trying to teach the profession to ignore. Reviewers may load the pages of our journals till they are ready to sink under the length if not the weight of their strictures on physicians who recognise the existence of these mechanical disorders, and remedy them by mechanical means; but the man who has seen one such

case as this which we are now considering will be apt to suspect that these review-writers are more skilful in handling the critic's pen than the practitioner's probe. I have seen many such cases. Most frequently, as Dr Marion Sims[1] has shown in his interesting statistics, the backward displacements are prominent in cases of acquired sterility—in cases, *i.e.*, of women who have given birth to one or more children, and have ceased to conceive before their usual period of reproduction was run out. In the present instance and in other patients whom I have seen, however, the displacement had come about antecedently to marriage, and proved a bar to conception. This it may do either by marring the function of the uterus and Fallopian tubes as the canals for the upward transit of the spermatozoa, or by impairing the function of the uterus as the organ for the reception and lodgment of the fertilized ovum.

At whatever time the displacement has been produced, and in whatever way it interferes with reproduction, it is of the greatest moment to the barren woman that it should be recognised and rectified.

1*st*, *Recognition*.—It may be recognised by the finger introduced into the vagina, and still more definitely when two fingers can be used simultaneously for exploration. The detection of it may be aided by dragging down the cervix with a volsellum. Greater certainty still can be attained by the combined external and internal examination, by which means the great proportion of cases can be clearly diagnosed. There remains but the employment of the sound, which may be used with due precautions to give absolute certainty of diagnosis in any case, and which must in some be used as the only sure means of detecting the displacement.

2d, *Reposition*.—The sound need not by any means be used for the *recognition* of every case. Many are clearly recognisable without it. But there are few cases where the *reposition* is not best effected by means of it. For when the condition has been recognised, it becomes our plain duty to attempt to rectify it. We are sometimes bidden look upon the endometritis or general congestion that almost invariably accompany retroflexion as the essential mischief in the patient requiring special treatment. We do well in many instances to attend to this injunction, but certainly not in every case of retroflexion. According to my experience, the converse more frequently holds good—that if you straighten the uterus, and keep it straight, the congestion disappears, and of this our patient furnishes an illustration. Happily we do not need to follow theorists on either side. But, as a rule, whatever may be done, the uterus must be replaced. The reposition may be effected in various ways. We may do it by internal manipulation alone in some rare cases—more particularly if, at the same time, the patient be placed prone, or the cervix be dragged down with a volsellum. Better still, in a greater variety of cases it may be brought about by combined internal and external manipulation. Or the patient may be placed in the knee-elbow position, and the posterior wall of the vagina held up with the fingers or a Sims speculum; or, by letting air rush through a tube to distend the canal, according to Campbell's procedure, the uterus will be straightened. I have tried all the various methods in many cases, and in some patients have only succeeded at last in rectifying the uterus by simply passing in the sound and turning it round in the method originally described by its British inventor. I have yet to see the patient suffering from a simple retroflexion of the uterus, in whom I can cause any notable degree of suffering or induce any dangerous symptom by lifting up the organ with the ordinary sound. Its retention can, in most cases as in the present instance, be best effected by means of a Hodge pessary.

---

[1] *Uterine Surgery*, p. 237.

II. PECULIARITIES OF THE THIRD STAGE IN PLACENTA PRÆVIA LABOURS.—I may be allowed, in passing, to make some observations on the peculiarities in the third stage of labours complicated with placenta prævia. These observations hold good to placenta prævia cases general as well as to primiparal placenta prævia cases, although I am led to make them from the circumstance that in both our cases it was found necessary to extract the placenta artificially.

1. *Common Necessity for Shortening the Third Stage.*—To begin with, we can rarely afford to allow any lengthened interval to elapse in such cases between the birth of the child and the complete evacuation of the uterus. The loss of blood which the patient has sustained during the first stage of the labour may have proceeded just so far that she could survive it, but a slight additional drain would prove fatal. Unless the uterus be contracting with even more than usual vigour, it is likely that there will take place additional loss of blood, owing to the partial detachment of the placenta that has been produced. In ordinary cases where the patient has lost no blood previously, and where the placenta lies high and perhaps either unseparated or else completely separated in the uterine cavity, we may wait for half an hour or more without seeing any hæmorrhage to call for interference. But where the patient is already largely drained, and some degree of hæmorrhage is necessarily progressing as takes place so commonly in placenta prævia cases, the indication for artificial shortening of the third stage becomes very urgent.

2. *Inertia of the Uterus.*—Again, even if delay were safe, it would in these cases require to be unusually prolonged. For, *first*, the placenta, or what remains of it still adherent to the uterine walls, is attached low down in the cavity where the muscular walls are thinnest and weakest, and where but a limited set of the muscular bundles can come to bear on it for its detachment and extrusion. And, *secondly*, the rapid withdrawal from the uterus of the main mass of its contents, leaves it with a tendency to inertia,

which can only be overcome by active pressure and the use of ergot. The muscular conditions of the uterus thus form a second indication for interference in the third stage, of which we have an illustration in Mrs A.

3. *Adhesion of the Placenta.*—But in Mrs B. we get an illustration of yet another difficulty, which we may be prepared to meet in such cases. There the placenta was so firmly adherent to the uterine walls in consequence of inflammatory changes in the maternal portions of it, that its separation required extreme care and caused some difficulty. It is just such an adhesion as may require similar interference after an otherwise normal labour. Only, here the inflammatory changes in the uterus, to which in this case the prævial complication was due, asserted their mischievous influence further by leading to this firm adhesion between the uterus and the badly-placed placenta. Such a double evil result is easily intelligible.

III. REMOTE RESULTS OF HÆMORRHAGE.—It has always seemed to me that whilst the immediate dangers of hæmorrhage are well understood and set forth in text-books, its more remote risks have received less attention than they deserve. I have now so often seen insanity, or phlegmasia, or pelvic inflammations, or general peritonitis arise in patients whose labours had been complicated with a flooding, that I was not surprised when the dreaded rise in temperature took place in our patient, and the abdomen began to be tympanitic. All precautious were taken to prevent any septic poisoning in this case, and if we are to assume such a poisoning, I do not know where to find its source. Seats of absorption, of course, there were plenty; but the patient's own discharges were not unhealthy, her canals being regularly syringed with an antiseptic lotion, and the hands, instruments, and sponges that were applied to her were all carefully cleaned. The case appears to me to illustrate the special proclivity to inflammatory affections of a woman who had suffered from an extensive loss of blood. But instead of dwelling further on this subject, I proceed to direct your attention to one which arises more specially from consideration of the cases before us, viz.—

IV. THE RELATIONS OF PLACENTA PRÆVIA AND PRIMIPARITY.—Sir James Simpson[1] has directed special attention to the rarity of placenta prævia in cases of first labours, and the statistics he has collected show a proportion of only 11 primiparous to 136 multiparous patients suffering from this complication. This gives a proportion of 1 to 12⅖. Kuhn[2] gives the proportion of 6 primiparæ to 40 multiparæ with placenta prævia, or a ratio of 1 to 6⅔. In the extensive series of cases tabulated by Dr Read in his work on *Placenta Prævia*,[1] I find 428 where the number of the pregnancy is given. Of these 65 were primiparæ and 363 multiparæ, which gives us a proportion of 1 to 5½. Ludwig Müller, in the most recent treatise[2] on this subject, finds among 1574 cases of placenta prævia, 227 in primiparæ, or 1 in $5\frac{9}{10}$. This comparative rarity in primiparous patients may well indicate, as Sir James,[3] with his usual richness of suggestion, has hinted, that it has to do with "the cause or causes leading to the origin or production of that deviation in the site of the development of the placenta which constitues placenta prævia." Let us inquire into

---

[1] *Selected Obstetrical Works*, p. 282.

[2] Quoted in Schrœder's *Geburtshülfe*, s. 558.

1. *The Cause of this Rarity.*—From one of the conditions which favour the prævial implantation of the placenta, the primiparous patient is entirely free. I refer, of course, *first*, to the dilatation of the uterine cavity and diminished tonicity of the uterine walls, that are apt to remain after a previous pregnancy, the deleterious influence of which is more marked when the new conception follows quickly on the preceding labour, or when some degree of subinvolution has remained. But, *secondly*, the primigravid female is less likely than one who has already borne children to have been the subject of the chronic inflammatory affections of the endometrium, that not only lead to change in the form of the uterine cavity, but impair the functions of the mucosa at various parts, and unfit it for the easy ingrafting of the ovum in the most favourable zones. Again, *thirdly*, as we have seen that retroflexion of the uterus is rarely met with as a primary cause of sterility, whilst it is a not infrequent affection among women who had given birth to a fertilized ovum, so we can see that its tendency to modify favourably the site of the placenta will be less marked among primiparous than among multiparous women. And, *fourthly*, the injurious influences of organic disease of the uterus on the placental implantation will be less likely to be met with in first than in subsequent pregnancies. Probably the age at which women usually conceive for the first time protects them from the conditions which favour the production of placenta prævia, and a point which is worthy of very special note is—

The Age of Primiparæ affected with Placenta Prævia.—This is a subject, which, so far as I know, has not been looked at hitherto. In the tables of Dr Read, from which I have already drawn, I find the ages of 33 of the primiparous cases of placenta prævia are given. If to their united ages we add that of the patients whose cases I have recorded above, we get 28½ years as the average age of the women who were affected with placenta prævia in their first labours. Five of the thirty-five were 40 years old and upwards, only four were 20 and under. How are we to interpret this marked partiality of placenta prævia in primiparous women for those whose first labour comes on at an advanced age? It may mean that in a young married woman some morbid condition has arisen which has delayed conception for some years, until the usual dates of primiparity were passed; and continued to exert a prejudicial influence upon the progress of the pregnancy, parturition, and the puerperium. I have seen illustrations of all these. But it may be read another way. The longer a woman lives before being married the more chances she has of becoming the subject of some morbid condition which, now that she does marry, either prevents conception, or mars the normal development of the ovum, or lays the foundation for some anomalous labour. The cases of the two patients, whose history I here record, points to an explanation in this direction; for Mrs A. was 31 years of age before she was married, and Mrs B. was 35.

---

[1] *Placenta Prævia: Its History and Treatment.* By William Read, M.D., Philadelphia, 1861.

[2] *Placenta Prævia, die vorliegende Nachgeburt ihre Entwickelung und Behandlung.* Stuttgart, 1877, p. 151.

[3] *Loco citato*, p. 283.

2. *Fatality of Primiparal Placenta Prævia.*—As in natural labour, and indeed in all varieties of labour, so here primiparity tells injuriously on the prospects both of the mother and the child.

1*st, Mortality among the Mothers.*—We can easily understand how the less easily dilatable canals of any primiparous woman will make the delivery in placenta prævia both more difficult for the practitioner and more dangerous for herself. The difficulty and the danger only become more obvious when we remember the advanced age at which we find it so frequently occurring. The general maternal mortality in all the cases of placenta prævia collected by Read[1] amounts to 1 in 4¼. There are 1628 cases altogether, with a mortality of 380, or 23·3 per cent. Among primiparous cases the mortality rises to 1 in 3⅝. Of the 65 cases, 18 died, or 27·7 per cent.

2*d, Mortality among the Children.*—The proportion of the children that are lost in placenta prævia cases is startlingly high. From Read's statistics we gather, in taking all the cases where the result to the child is given, that the deaths exceed the survivals by nearly a half. In 854 cases there were 508 dead children, giving an infantile mortality of 59·5 per cent. The proportion of fatal cases among the infants also becomes much greater when the mother is primiparous. In 56 first labours, where the result is given, 39 of the children were dead, giving a mortality of 69·8 per cent. The record is all the darker when we note in the column of "remarks," that in three of the cases the children died within "a few hours," "next day," and "in three days," and if we transfer these from the survival column to the black list we get a mortality among the infants of 75 per cent. This mortality among the infants is partly due to the circumstance that the labour so often comes on prematurely; most of the first born children that survived, so far as we can learn from Read's statistics, having been carried till the 8th or 9th month; only one was born at 7½ months. I would only add with respect to the injury of the infant's leg, that it was new to me to observe the lacerations of the muscles and vessels that had obviously taken place. But then the infants brought into the world under similar circumstances are most frequently dead, as we have just seen. Hence, though such injuries may have been inflicted on them, we have no vital reaction to betray the mischief.

---

[1] *Loco citato*, p. 12.

ARTICLE II.—*On Some of the Surgical Uses of Elastic Compression.* By J. C. OGILVIE WILL, M.D., Surgeon to the Aberdeen Royal Infirmary.

(*Read before the Aberdeen, Banff, and Kincardine Branch of the British Medical Association.*)

SOME months ago I received a copy of a paper, reprinted from the Transactions of the American Medical Association for 1877, entitled "Surgical Uses, other than Hæmostatitic, of the Strong Elastic Bandage," by Dr Henry A. Martin, of Boston, U.S.A., and as the views advanced in this pamphlet are of considerable interest to all practitioners, I am anxious to bring the subject of which Dr Martin speaks before the members of our Branch. For myself, the publication referred to possessed a more than ordinary interest, as I had for some time been employing elastic bandages in the treatment of some surgical diseases with most gratifying success, and further experience of the use of elastic compression has only served to increase the favourable opinion I had formed of it as a remedial agent.

Before entering upon a review of the affections in which elastic compression has been found useful, I shall first direct attention to the nature of the appliances used in carrying out this plan of treatment, and with this view I now pass round for your inspection two bandages somewhat dissimilar in appearance, but which both owe their remedial properties to the presence of the same material—indiarubber—while they also act in a precisely similar manner, the use of either being determined by the presence or absence of certain conditions, of which notice will be taken in due course.

The first bandage is that known as the "Strong elastic bandage," which Dr Martin, its inventor, thus describes:—The material of which it is made is what is technically called "pure rubber." Its length is 10½ feet, width 3 inches, and thickness of No. 21 of "Stubs's wire gauge." Into one end a piece of strong linen cloth is inserted, and to this is attached a stout double tape 18 inches long. Bandages of greater length and width are occasionally required, but the dimensions given are those of the bandage which will be found most generally applicable. The surface of the bandage is extremely soft and smooth, and its edges perfectly even, so that there is no risk of its tearing, which it would do very readily if the slightest notch were present. If made of the best Para rubber, prepared with the minimum of sulphur and heat needed to effect "curing" of the gum, a bandage will not only last for a very long period, but will be found to improve in appearance as it loses the sulphur employed in its preparation. The durability of the bandage is matter of some moment, as the cost of a single one of the size mentioned is ten shillings.

The other bandage is an elastic web one, which we owe to Professor Lister, who introduced it some years since, and who applies it over the edges of antiseptic dressings to prevent their shifting, a purpose for which, I feel assured, all who have tried it will agree with me in regarding it as simply invaluable. As its name and appearance explain sufficiently well its nature, I need not occupy time in describing it. It can be obtained of any length and width desired—the price is about one shilling per yard.

Having described the bandages, I now pass to their uses and modes of application.

The first class of cases deserving of notice in which Martin's bandage may be used with undoubted advantage is ulcers of the legs, including those dependent upon a varicose condition of the superficial veins, the treatment of which by any means short of prolonged and absolute rest in the recumbent posture is of little avail, while their proneness to return soon after the erect posture is assumed is a matter of everyday experience; but by the proper and systematic use of the strong elastic bandage, a cure may be effected in a comparatively short space of time, and that, too, while the patient pursues his usual avocation, "without," as Dr Martin says, "the necessity of an hour's rest or change of posture," and re-ulceration may be surely prevented by continuing the use of the bandage, by which the occurrence of venous stasis and its accompanying evils may be averted.

During the past twenty-five years Dr Martin has treated at least six or seven hundred cases of ulcerated legs in this manner, "and all, without exception, have been perfectly and absolutely cured." But lest this statement may lead any one to suppose that the bandage alone may be relied on for the cure of all ulcers, even those arising from constitutional dyscrasia, it must be understood that Dr Martin distinctly excludes syphilitic and scrofulous sores, saying that, although often proving a very useful adjunct to treatment, the bandage alone is not sufficient, appropriate internal medication being required before resolution can be effected.

The treatment of ulcers by Dr Martin's method, although only recently introduced into this country, has attracted considerable attention, and its usefulness has already been attested by two very competent and trustworthy observers, Mr Jonathan Hutchinson, of the London Hospital, and Mr Callander, of St Bartholomew's, and my own comparatively slight experience of it is of such a character as to convince me of its utility, and to encourage me in continuing it.

As an illustration of the good effects of the mode of treatment under notice, I bring before you a patient who became an inmate of one of my female wards three weeks ago. When admitted she was suffering from a varicose ulcer of the leg. The ulcer was about two and a half inches in length, and one and a quarter in breadth; its surface was covered by the usual unhealthy-looking, grayish granulations, and it was surrounded by a wide halo of inflamed skin. On 16th October a strong elastic bandage was applied. Two days afterwards the ulcer was found to be diminished in size, a distinct rim of new epidermis having invaded the ulcerated surface. In twelve days' time it was half healed, and now—exactly three weeks since treatment was commenced—it is all but whole. The little spot that still remains uncovered by epithelium is as healthy-looking as could be desired, and the inflammatory redness has completely disappeared. This patient had previously suffered from varicose ulcer, and on that occasion she was an inmate of an hospital for two months, and was confined to bed for nearly the whole of that period. The case is therefore a striking and convincing one, and so satisfied is she with the mode of treatment adopted on the present occasion, and with the comfort afforded by the bandage, that she has purchased one for future use. The directions given as to the manner of applying the bandage are as follows:—The patient should put it on while in bed, before the veins of the leg become distended with blood, which they do immediately after the erect posture is assumed. The bandage should be applied by winding one turn just above the malleoli, then one round the instep and sole, then up the leg, spirally, round and round, to the knee, each turn overlapping that below it from one-half to three-quarters of an inch. If there is any redundant bandage it can be wound round the leg below the knee, the tapes carried in different directions, and tied. It should be applied with just sufficient snugness not to slip down. The moment after the foot is put to the ground, the limb is so increased in bulk by the increase of blood in its veins that the bandage becomes of precisely the proper degree of tightness, and, no matter how active the exercise or labour of the patient, it will remain in position all day. When the patient undresses at night the bandage is to be removed, and the limb wiped dry; a piece of soft old linen moistened with olive-oil, or some equally simple dressing, laid on the ulcer, and retained in place by a few turns of an ordinary roller. The bandage should be sponged with water (cold will do, but warm is better), and hung over a line to dry, in readiness for the morning, or it can be wiped dry at once, and rolled up, with the tapes in the centre. In the morning the leg should be washed, and all traces of oil or cerate should be carefully wiped away, as contact with any fatty matter would tend to injure the rubber of which the bandage is made. The use of stimulant or antiseptic applications is uncalled for; therefore the treatment is of so simple a character that it can be easily carried out by even the most ignorant patient without the aid of medical supervision. When giving instructions regarding the proper mode of applying the bandage, the patient should be told that during the first week or two an eruption will probably appear about the parts, but that no treatment is required, as it will disappear spontaneously. The curative effects of the bandage in cases of varicose ulcer may be ascribed to the support afforded to the veins, the destruction of their valves, and the loss of contractile power of their coats being compensated for by the regular elastic support which it affords,—to the absorption of the products of inflammation being induced by the constant pressure it exerts, while granulation growth is favoured by the moist, humid atmosphere to which the ulcer is constantly exposed, the granulations, and tender young epithelium, being at the same time protected from external injury by the soft and regular surface of the rubber.

Dr Martin speaks favourably of the use of the bandage in the treatment of varices of the legs unaccompanied by ulcers, and advances the opinion that it will not only prove palliative in such cases, but that a cure may be achieved; on this latter point, however, the evidence he adduces is very meagre. Of its palliative influence, and of its great superiority over the elastic stockings in common use, I have myself had striking and convincing proofs. Regarding its curative effects, I am as yet unable to supply any data, but keeping the pathology of the affection in view, I feel somewhat inclined to doubt the possibility of a real and permanent cure ever being attained without having recourse to operative procedures.

Before leaving this part of the subject, I would point out that the elastic web bandage is not only equally suitable for the treatment of varices unaccompanied by ulceration, but that it seems to me to be preferable to Martin's bandage, for, on account of the openness of its texture, free circulation of air about the parts is allowed, and thus the occurrence of any irritation arising from confined perspiration is avoided, while the appearance of the web bandage renders its use more acceptable to fastidious patients than that of the somewhat clumsy-looking indiarubber one is likely to do. For those to whom expense is an object, Martin's bandage should be ordered, for although its original cost is somewhat greater, ultimately it is really cheaper, as it lasts for an indefinite period, while the web bandage gradually loses its elasticity, becoming less and less elastic after each occasion on which it is washed. An Esmarch's bandage would undoubtedly be more elegant than either of those mentioned, but it would be found by far too expensive for general use.

The second class of diseases in which elastic compression will be found of value is a very important one—viz., affections of joints, including, among others, tumour albus, or gelatinous transmutation of synovial membrane, effusion into joints, and sprains. In the first mentioned—white swelling—I have found elastic compression invaluable, and I firmly believe that in the web or rubber bandage we possess a means of treatment capable of effecting more good than any of the modes yet devised, and that results may now be obtained which, before the introduction of elastic bandages, would have been deemed impossible. In the commencement of this paper I mentioned that, for some time previous to the publication of Dr Martin's paper, I had been employing elastic bandages in the treatment of disease, and it was in cases of this kind that I first used them, the results obtained being of a most satisfactory and unlooked for character.

It is unnecessary to occupy time with details, but I may mention that two of the cases were recently in Martha's ward, and that their steady progress was watched with much interest, and evident satisfaction, by a large number of students, and by several practitioners, who from time to time accompanied me during my visits. Ultimately I had the pleasure of directing attention to the fact, that, by the systematic use of elastic pressure, the abnormal appearances had been entirely dissipated, and that the previously affected joints were now as sound as their fellows. Both cases were well-marked examples of pulpy degeneration affecting the knee-joint; in one the disease had existed for years, during which the child had been subjected to various modes of treatment, but without any good resulting, and so obstinate had the disease proved that operative treatment, at no distant date, had been held out to the parents as the only means by which there was any hope of the child being restored to health and ultimate usefulness. The time occupied by treatment was of considerable duration, still the results amply repaid the exercise of patience on the part of both patient and surgeon. The bandage used was the elastic web one—and here it seems to me to be more suitable than the other, as it can be applied with greater nicety to the unequal surface which it has to embrace; and as it should be worn constantly both during day and night, the free circulation of air allowed by the open texture of the bandage is a decided and evident advantage.

Dr Martin does not seem to have made use of his bandage in the disease just mentioned, but he has employed it with manifest success in cases of effusion into joints, where I have myself found elastic compression most useful. In chronic cases he advises aspiration, followed by the application of his bandage; in recent cases the bandage alone suffices. Regarding the combined use of aspiration and compression, he says, "I have never known a case in which this was done where effusion returned;" and, conversely "I have never known a case where such a joint was aspirated, and no such support afterwards applied, in which effusion did not return, whether the synovitis was the result of injury or of disease."

After aspiration the bandage should be worn *continuously*, both day and night, for at least six weeks, but rest need only be prescribed for the first two or three days, after which the patient may resume his avocations with perfect safety, re-effusion being prevented by the firm pressure exerted by the elastic covering in which the joint is encased. If the bandage be removed for but a single day—especially during the early part of the treatment—the synovial sac may again become distended with fluid, therefore strict injunctions for its constant use should be given, and the patient should be warned of the probable undesirable effects which may follow the disuse of the appliance for even so short a period as twenty-four hours.

In sprains the use of the bandage will at once recommend itself to all, for the employment of elastic compression and support in cases of the kind is as sound in theory as experience has proved it to be in practice. In what is known in common parlance as a sprain there is generally rupture in a greater or lesser degree of some of the ligaments, attended by extravasation of blood, and followed by exudation of inflammatory products; and no better substitute for the torn ligaments could be found than that supplied by an elastic bandage, and no more potent method could be devised for the prevention of undue effusion, or for setting up its absorption, than the gentle, yet continuous, compression which it affords.

The so-called antiphlogistic treatment of sprains by leeches, fomentations, and lotions, has for the most part been replaced by the more rational one of pressure and immobilization from the first, while the correctness of Velpeau's statement that "compression is the sovereign resolvent in contusions with infiltration and swelling," is universally allowed. Many excellent methods of treating sprains on this principle have been suggested, such as the strapping system advocated by Baynton, the immovable apparatus of Seutin, and the cotton-wool dressing, the pasteboard splints, and accurate bandaging of Sampson Gamgee; but the elastic bandage seems to me to be possessed of advantages peculiar to itself—advantages of no small moment to both patient and surgeon—for suffering is lessened, a more certain and speedy cure is effected, and the means by which such desirable results may be obtained are of the simplest possible description. The firm support afforded by several folds of the strong elastic bandage is as efficient in maintaining physiological rest of the wounded part as splints or fixed bandages, while the *bête noire* of this latter mode, viz., the remodelling of splints, and the removal and replacement of stiff bandages, necessitated by the gradual shrinkage of the limb as absorption goes on, is avoided, for the elastic bandage contracts as swelling diminishes, and even if it has to be reapplied it is only the work of a few minutes, and thus the time and trouble involved are much lessened.

Moreover, absolute fixation of joints by stiff bandages is not unfrequently attended by most undesirable sequelæ, for, as Martin remarks, it is "very apt to lead to a very decided stiffening, sometimes to a degree, permanently impairing the usefulness of the articulation, and nearly approaching anchylosis;" but when the elastic bandage is applied in such a manner as to act as a temporary substitute for the torn ligaments, it affords a firm, strong, constantly resisting force, by which distortion of the part is prevented; while it still permits the natural motion of the part to an extent sufficient to render the occurrence of subsequent stiffness of the articulation extremely improbable.

When using the bandage in the affection now under notice, "the one thing to be borne in mind," says Martin, "is that the bandage is a temporary substitute for the injured ligament or ligaments, to take the place of them, and so permit them to have that undisturbed rest which is absolutely essential to their perfect repair. The application of the bandage must, therefore, be so made as to support the joint in such a way as to prevent motion *to* an extent or in a direction which would apply extension to the injured ligaments."

The exact method in which the bandage should be applied, therefore, depends upon the character of the injury, and upon the nature and degree of the displacement, should any be present, thus it is impossible to give any specific directions for its use; but, if the practitioner has any just ideas of the true indications of treatment, he will experience but little difficulty in fulfilling them.

In many fractures of the extremities there is a wide field of usefulness for elastic compression, for, as in sprains, undue swelling is prevented, absorption of bloody and other extravasations is accelerated, and the splints being held in position by a constantly contracting elastic bandage continue to act as efficient supports to the fractured bones for a much longer period than when they are retained by an ordinary roller. On account of the manipulation of the injured part being thus reduced to a minimum, union proceeds more speedily, and a saving of pain and anxiety to the patient, and of trouble to the surgeon, are effected. In fractures of the ribs I have not yet tried the elastic bandage, but I expect that it will prove most useful in such cases, as I have found that the web bandage when applied to the thorax kept its position perfectly notwithstanding the active exercise of those who were the subjects of treatment. The superiority of a tight-fitting elastic covering (such as that afforded by a carefully-applied web bandage) to the strips of plaster or binders in common use in cases of fractured ribs, seems so manifest that it is unnecessary to enter further on the subject.

Martin's experience of his bandage in fractures has apparently been somewhat limited, as he only speaks of its use in a case of "green-stick" fracture, and in three cases of faulty union of recent fractures where he succeeded in overcoming the resulting deformities by means of his appliance; and although the strong elastic bandage would doubtless prove efficient enough, it was to the use of the web bandage that I referred to when just now speaking of the value of elastic compression and support in the treatment of fractures.

In chronic abscesses I have found aspiration followed by elastic compression most useful. In some cases obliteration of the abscess cavity has followed a single introduction of the needle, and of this I had recently an excellent example in Anna's ward. The abscess was one of considerable size and standing in the upper part of the left thigh of a young female. It was aspirated, and a considerable quantity of strumous pus was allowed vent; the part was then firmly bandaged with an elastic roller; no re-accumulation of fluid took place; and when the patient was discharged, no trace of the swelling was discernible.

In sinuses so situated as to permit the use of the bandage, it proves a valuable adjunct to the treatment introduced by Volkmann, for if a bandage be applied after the sinus has been thoroughly cleared of the unhealthy granulation tissue by which it is lined by means of the sharp spoon, its closure will be greatly hastened by the exercise of external elastic compression.

In enlarged bursæ, treatment similar to that advocated in chronic synovitis will be found safe, efficient, and satisfactory.

The remaining affections in which Martin has employed his bandage with success—viz., œdema of the limbs, rheumatic and neuralgic affections of joints, erysipelas, and some cutaneous diseases, and as a temporary dressing after dislocation—call for no special notice, although his observations are both interesting and instructive. And now, as I fear that my remarks have already extended to an undue length, I must bring this paper to a conclusion. In doing so, I would say that I have endeavoured to lay before you as concisely as possible some of the advantages attending the use of elastic compression, as seen by Dr Martin and myself; and I trust that what I have said may induce some of the members of the Branch to give a fair and impartial trial to a mode of treatment which has much to recommend it, and which, I feel assured, will occupy at no distant date a sure and prominent place in surgical therapeutics.

ARTICLE III.—*Surgical Cases. Injuries and Operations.* By JOSEPH BELL, Surgeon to the Royal Infirmary.

(*Read before the Medico-Chirurgical Society of Edinburgh, 14th January* 1879.)

WE, to whom the public have entrusted the sick and wounded poor, underlie a double responsibility — to our patients, that we may treat them kindly, skilfully, and successfully; and also to the profession, that the experience which we gain in the priceless opportunities of the wards may not be lost.

We cannot always be initiating new modes of operation or of surgical dressings, but to all of us are ever occurring cases from which we may learn. A few of these bearing chiefly on accidents or operative procedures I venture to lay before you to-night. The chief relation which they bear to each other is that they have occurred within the same six months.

Double Primary Amputation of (Both) Thighs from Railway Smash. Rapid Recovery.

G., a healthy-looking man, aged 27, but looking much older, while driving a horse near Granton, caught his foot on the edge of a rail at a point, fell, and both his legs were run over by several loaded waggons. A special engine was procured, his thighs tightly tied up, and he was sent up to hospital at once.

I was in hospital at the time, so with as little delay as possible he was placed on the operating table, and, the necessity for amputation being too evident, I obtained his leave to remove both his legs above the knee; but his pulse was very feeble, and he was intensely nervous, throwing his arms wildly about, panting for breath, and looking very ill, cold, and exhausted.

I determined that by great rapidity he might be got off the table alive, so operated in the following manner:—Fixing the tourniquet firmly near both groins, I first amputated the right leg by Carden's method, and tied the femoral only, wrapped up the stump in a towel wrung out of carbolic solution 1–20, then took off the other limb by Mr Spence's method,—it had been injured higher than the right, so that I could not save the condyles of the femur,—then tied the femoral there, and fixed it up with another towel, then returning to the first, I tied one or two large branches which spouted, and rolled it up again, then back to the left one, doing the same, and getting the tourniquet off both limbs. On going back to the right the surface was nearly dry and glazed, so, asking Dr Maclaren, who assisted me, to stitch it up and insert a drainage tube, I did the same for the left, so rapidly that the patient was in his bed with his limbs dressed and bandaged in 24½ minutes from the time he entered the hospital gate.

The strictest antiseptic precautions were observed, two engines being used to furnish spray. Of course, this great rapidity was due to the fact that everything was ready, the assistants all in hospital, admirably disciplined, and steam had been up in the spray engines. Shock was comparatively trivial; his temperature once, and only once, reached 100°. His stumps healed by first intention, and he was in the garden on the seventh day after the operation.

Remarks.—I have now in three cases found the benefit of this mode of dealing with double primary amputation in avoiding shock, lessening the time needed, and greatly diminishing the number of vessels requiring to be tied. In a previous case of double amputation for railway smash at the knees, the patient was almost pulseless, and had he been kept many minutes more on the table would not have left it alive. He also rapidly recovered.

The case is interesting also as showing that, when the assistants know their work, the strictest adherence to antiseptic precautions need not in itself make either the operation or the dressing tedious, though it can easily be made an excuse for much fussing and many delays.

Amputation of Thigh for Malignant Tumour of Tibia. Rapid Recovery.

Jeanie ——, æt. 18, an emaciated girl, had been worn down by long pain and discharge of blood from a bleeding encephaloid cancer involving nearly the whole front of the tibia and the skin over it.

After a week of preparatory treatment, I amputated the thigh at the junction of its middle and lower thirds by a long anterior flap; very few stitches were inserted; a large drainage-tube put in centre of wound; careful antiseptic precautions used. On the 72d hour after the operation she was carried into the garden, and every day thereafter she sat up in an arm-chair till she left the hospital within three weeks after the operation.

The following cases of complicated injury to the ankles, etc., illustrate the treatment of such cases under varying conditions:—

I. A powerful young slater, in a fall of 40 feet, in addition to scalp wounds and various bruises, sustained the following complicated and rare injury. He fractured the inner malleolus transversely with little displacement, also the fibula at its usual situation, and also split the astragalus antero-posteriorly so completely that the two halves were displaced to the extent of at least half an inch; the outer portion being forced forwards nearly out of the joint, putting the tendons of the common extensor of the toes on the stretch, and rupturing the anterior ligament of the ankle-joint. Under chloroform, I succeeded in replacing the projecting portion to a considerable extent, though without getting perfect apposition. After a good deal of inflammation, the result has been a most useful ankle-joint, with very slight interference with the movements of the limb.

II. A Glasgow artisan was amusing himself at the Gymnasium, got his foot so thoroughly squeezed and wrenched by one of the swinging-boats that his astragalus was completely displaced forwards and outwards under the skin of the foot.

This I had to cut out with antiseptic precautions, and the result was an excellent and freely mobile foot, with a scarcely appreciable shortening of the limb.

III. A. B., a thin, wiry, active man of 40, was seen, when drunk, to be run over by four loaded railway waggons at Grangemouth. He was taken into the district hospital for twenty-four hours, and then sent here to have his limb amputated.

When I was sent for to do the operation, I found the following conditions:—(*a*) A large lacerated wound, 5 by 3 inches, on the outer side, exposing the fibula, broken in several places. (*b*) A comminuted, but not compound fracture of the tibia in its middle and lower thirds. (*c*) A contused wound of the inner ankle, evidently the result of the impact of the flange of the wheel. It cut across the internal malleolus, and opened the joint. All the wounds were dirty, and already somewhat swollen and inflamed. The patient was very anxious to save his limb, and looked so hardy and wiry that, as the foot was evidently not dead, I made the attempt. It was too late for antiseptics, so merely supporting the leg on sand-bags, and packing interstices with dry boracic lint, it was simply left to nature, kept clean, and tension was prevented. The result has been an excellent leg.

Among the dislocations I find the following rare ones:—

I. *Dislocation of Shoulder Backwards on Dorsum Scapulæ.*—An elderly woman who keeps an office in Princes Street fell downstairs. She was quite sober, and complained of nothing but intense pain in her arm. The axis was altered in an unusual manner, the elbow being projected forwards as well as outwards. The head of the bone was quite easily felt on the dorsum of the scapula below and behind the glenoid. It was reduced easily enough under chloroform.

II. *Dislocation of the Knee-Joint* (*Tibia backwards*).—The patient, an active, powerful young man, was shoeing a horse for Hallow Fair, when the horse kicked him on the knee below patella. No fracture was caused, but upper end of tibia was driven straight backwards into the popliteal space. The internal condyle projected more than the outer, as the internal lateral ligament was torn across. The leg was bent to a right angle, and patella and patellar ligament projected in the strangest way.

Reduction was accomplished with great difficulty, and only after dividing subcutaneously the biceps and semi-tendinosus tendons. Cold was applied to the joint, which was put up in straight position. It got rapidly well.

Case of Division of Tendo Achillis by an Adze.—A. B., æt. 30, sustained on 8th December a wound of his left tendo Achillis, completely severing it in a transverse direction, about one inch above its insertion. There was a great gap, and the upper end of the tendon had retracted for two inches into its sheath.

Putting the patient under chloroform, I swabbed out the wound, and slit open the sheath of the tendon in a vertical direction till I reached the severed end, which was then easily dragged down and replaced in contact with the other end. I then sewed them carefully together by a continuous suture of strongest carbolized catgut, making four interlacings, flexed the leg on the thigh, and extended the foot by splints and bandages.

A suitable slipper was prepared, and the splints removed next day. The case was dressed with antiseptic precautions till the wound was healed, and now, 10th January, there is complete firm union, with no separation of divided ends.

Dislocation of Radius.—M. W., æt. 10, three years ago dislocated her right radius, was taken to a dispensary in Leeds, where it was supposed to have been set. Saw the late Mr Nunneley once or twice, but has seen no doctor for last two years.

The right radius at its upper end is dislocated forwards and outwards, so that its articulating surface is quite off the humerus. When the forearm is supinated the motions of the elbow are fairly performed; but when hand is pronated, flexion is impossible even up to a right angle. This is in consequence of a remarkable increase in relative length of the radius when compared with the ulna, obviously to be explained by the removal of the normal pressure which the radius sustains at its radio-humeral articulation.

III. *Dislocation of Knee-Joint complete (Tibia and Fibula forwards).*—This occurred in connexion with various other injuries in an old drunkard. His left arm was ground off close to the shoulder-joint, two ribs broken on left, and three on right side, with fractures of sternum and pelvis; after amputation at shoulder the dislocation of the knee was easily reduced. The patient lived four days, dying of acute pulmonary œdema, in connexion with a fatty dilated heart.

Exostosis of Humerus.

Mr H. B., æt. 18, had suffered for about two years from a gradually increasing hard tumour on the outer side of his right shoulder. It caused occasional gnawing pain, weakened the arm capacity for all movements in which the deltoid was concerned, and of late had been growing rapidly.

From its history, hardness, and smoothness of outline, it was obviously an exostosis; but it was easy to feel that it grew by a broad extended neck from a considerable extent of the shaft of the humerus; it also extended very closely up to the joint. Its rapid growth, increasing pain and deformity, rendered the question of immediate interference a foregone conclusion, but the difficulty was what should be done. Amputation was, if possible, to be avoided, and yet complete removal of the tumour seemed almost hopeless without it. I determined to try, however, and with the concurrence and assistance of Dr Menzies and Dr David Menzies, the medical attendants of the young gentleman, I performed the following operation on 16th July 1878:—

With a free incision I exposed the inner edge of the deltoid, and cutting as few of its fibres as possible got it off the tumour to the outside, and also exposed the whole extent of the attachment of the tumour to the shaft of the humerus by pulling the biceps and coraco-brachialis inwards. As was expected I found the base extensive, and as I feared it was covered by cartilage, and hence in a growing state quite to the edge of the shaft, which itself was thickened and broadened. I then with a strong mallet and chisel cut fairly into the shaft of the humerus, cutting out and removing fully half its thickness for a distance of three inches from close to the capsule above nearly to the deltoid eminence below. This, of course, opened into the medullary cavity. By these means, aided by bone-pliers, the tumour was completely removed, base included. Replacing the soft parts, I tied one or two small vessels, sewed up the wound, leaving a short broad drainage-tube at the lower end of it. The result was perfect; the wound kept sweet till it was almost healed; the patient was out walking within a fortnight; and he now has a most useful arm, in no way weakened, nor has there been any evidence of return of the tumour.

Wound of Axillary Artery—Aneurism—Operation—Cure.

J. M., æt. 25, a strong, handsome young fellow, appeared at hospital on Tuesday with the following history:—On the preceding Saturday, when partially intoxicated, he had got into a fray with a piper who had struck him a blow in the right armpit with a knife; that he had bled till he fainted; had been carried home, and then seen by a doctor who had put on a bandage.

State on Admission.—The arm and forearm were swollen and numb; there was no pulse at the wrist; round arm and shoulder were slight superficial vesications, which he states were the result of very hot cloths applied by his mother, who had also been drunk. In the centre of the axillary space was a small cut half an inch in length and healed; deeper than this a small hard mass, about the size of a filbert, was surrounded by a softer swelling, flat and expanded to the extent of a five-shilling piece.

Diagnosis.—Wound of axillary artery plugged by a firm clot, with some effused blood in surrounding cellular tissue. I explained to the patient the dangerous nature of the wound, and requested him to stay in hospital. This he obstinately refused to do, and would not believe the case was serious.

11th April.—On Thursday he returned, more amenable to reason, as arm was worse, so he was put to bed, the arm wrapped in cotton wadding and carefully bandaged, and a compress put over the arterial wound. He was put on low diet, and large doses of iodide of potassium ordered.

For some days all went well, the vesications healed, the pain in arm was less, and all seemed firm.

On *3d May*, however, I found matters much altered for the worse,—pain, numbness, and swelling of limb had returned, and a large swelling filled the axillary space. It was obvious an aneurism had formed.

After consultation with Professor Spence and Dr Gillespie, and with the concurrence and kind assistance of Professor Annandale in addition to Professor Spence, I performed the old operation in the following manner:—

On *4th May*, making a free linear incision through the skin from just below centre of clavicle to middle line of floor of axilla, I easily displayed the capsule or external coat of the aneurism, dividing the clavicular portion of pectoralis major and some fibres of deltoid so as to give plenty of room; then when the subclavian was compressed above the clavicle by Dr Miller, I made an incision into the cyst sufficiently large to admit the hand, and thus detached the coagulum from its adhesions above and beneath. I then was able to feel the warm blood oozing up from below my fingers, and tearing out the clot as rapidly as possible with one hand, with the other I laid the whole cyst open, and then Mr Annandale was enabled to get his fingers on the upper end, while I held the lower. We thus found that we could command the hæmorrhage, which, owing to the free anastomosis, was not commanded by the supraclavicular pressure; and it was then a comparatively safe and easy business to clean, isolate, and secure by strong well-prepared catgut ligatures the two ends of the divided vessel. Each had to be carefully dissected for about half an inch above and below the orifice respectively, and the ligature then passed by an aneurism needle. A few other branches required ligature, the wound was washed out with 1–30 carbolic lotion, a drainage-tube inserted, and it was stitched up.

For eight days the progress of the case was perfect. Temperature and pulse were normal, patient slept well, being quite relieved of the pain.

On the seventh day, however, without any reason, a sudden and very severe hæmorrhage took place, soaking the bed in a few minutes, and filling up the whole axilla with clot.

Mr Cathcart, in the temporary absence of my house-surgeon, commanded the subclavian, and I was sent for. On arrival I found the dressings soaked, and about half a pound of blood on the bedclothes. Patient was somewhat weak, but in good heart. I at once gave chloroform, and, still with antiseptic precautions, ripped up the whole wound, turning out a large soft clot, and exposing readily enough the bleeding point, which as usual was the distal end of the artery. The catgut with which it had been tied had given way. I secured it by carefully dissecting round the vessel, and passing with an aneurism needle strong carbolized silk round it, then carefully examined the rest of the walls of the great cavity for bleeding points, finding none, but was sorry to see that the brachial plexus of nerves had evidently suffered from the pressure of the rigid coagulum, for the sheath of the nerves was gone, and part of the nerve tissue itself was evidently in a state of slough. The wound was then brought together by several points of interrupted suture and the dressings reapplied.

From this date the patient's progress to recovery, though slow, was steady. He never had any high temperature. The wound healed very slowly, and the ligature did not separate for a month. The only bad symptom was the slow circulation in the arm and forearm. There was no pulse at the wrist for some weeks, and a small slough formed over the inner condyle of the humerus from pressure.

He did not leave hospital finally till 25th July. As might be expected, the hand and forearm are feeble and useless, though he says there is slow improvement in their condition.

ARTICLE IV.—*On Croup: Its Nature and Treatment.* By JOHN MOIR, L.R.C.P. Edin., etc.; District Medical Officer, West Ham Union, London.

(*Continued from page 622.*)

VI. THE TREATMENT OF CROUP.

IN the first place, it is by no means unnecessary to mention that there is no *specific* remedy for croup, that is, in the ordinary acceptation of the term as it is used by quacks and impostors, and as apprehended by the ignorant, in matters of this sort, the vast majority of the nation. Yet, as I hope to be able to show, we have remedies which remove this undoubtedly serious malady from a scale it once occupied, so low, that in comparatively recent times nearly one-half of the cases attacked terminated fatally, to a much more tractable class of disease, whereby, if the case is attended to sufficiently early, the mortality may be reduced to the smallest minimum. It may be truly said here, however, and reiterated again and again, that in most cases everything depends on seeing the case in its very earliest stage. I will illustrate this by quoting a case under the treatment of Mr Meade, of the Bradford Infirmary, communicated to the *Lancet* in July 1871 by Dr Andrea Rabagliati. The patient was a boy of six years, who died in nineteen hours, after many severe fractures from the fall of a flagstone on him. On post-mortem examination an abundant thick deposit of organized lymph was found over nearly the whole surface of the brain. Dr Rabagliati hereupon remarks—"There having been no inflammatory symptoms of any consequence during life, it seems extraordinary that so extensive an exudation could be poured out and organized in so short a space of time as nineteen hours. From a series of careful observations made on pus-formation in this infirmary, it seems that the existence of true pus-cells cannot be satisfactorily determined by the microscope under at least thirty-six hours after the infliction of the injury. This appears to hold good as well for wounds made by the surgeon (as in amputation) as for lacerations of the soft tissues caused by injury. Such observations afford important data for estimating the comparative rapidity of formation of two common products of inflammation. It may be the case that the extremely rapid pouring out of the exudation in this case was due to the active condition of the vital powers in childhood; but if this be so, it tends to enforce the necessity of *prompt* and *efficient treatment in* those diseases which, like *croup* and *diphtheria*, depend on the rapid formation of inflammatory products."

It is impossible to mention here every remedy that has been used with more or less advantage in the treatment of croup, we will therefore confine our attention to those undoubtedly of the greatest value in the successful attainment of this object. This leads, in the first place, to the consideration of the prophylactic measures, if any, which ought to be resorted to, and here, at least, it must be confessed, that we have no special remedy to offer beyond those advisable for the prevention of other ordinary catarrhal and respiratory affections.

(*a.*) *Prophylactic Treatment of Croup.*

As croup is generally induced by dampness, cold, and moisture, and is therefore more common among poor children than those of the wealthier classes, although it often attacks the robust and well-nourished also, it is difficult to put into execution the chief hygienic prophylactic measure we possess, that is, removal from the locality where the affection is common to some other where it is unknown. It is also very important, where it can be effected, to select a dry position for the dwelling-house, such as the side of a hill with a southern exposure, and cellared underneath; such an arrangement would secure warmth in winter and coolness in summer, and in very severe weather confinement to the house, though tedious, might yet be alleviated by the enjoyment of light and sun, and a mild artificial and dry temperature. But this is only attainable by the few, so that we must see if there are not more general means of avoiding these attacks.

It is advisable that children with croup should be isolated as far as possible from other children unaffected by it, inasmuch as it is probably too much to say that it does not occasionally become epidemic, and children of the same family are sometimes more likely to take it than others. Dr George Johnson, at least in this country, adopts this principle. Avoiding damp, cold, and moisture as much as possible, with the other usual precautions against wet feet, etc., which have so large a share in forming the groundwork of future robustness, and preventing or modifying many of the maladies incident to infancy and childhood, are useful here. Warm clothing thoroughly protecting the body, especially the respiratory apparatus; flannels next to the skin, woollen stockings and substantial boots, cleanliness, and the frequent use of the sponge-bath, the water of which in the case of young children should never be entirely cold. The child should never be allowed to run about the room after being taken out of the bath, but should be at once thoroughly dried and put into a warm bed, with a sufficient quantity of bedclothes, especially blankets. The temperature of the bedroom ought to be at least equal to that of the room occupied during the day.

Inunction with oil, the application of olive or salad oil to the skin, is probably the most beneficial of all measures for the preservation of health, and the strengthening of body in delicate children, not only to prevent an attack of croup, but in scrofula and consumption and other diseases more or less akin, and often complicated with the scrofulous diathesis, such as rickets, tabes, laryngismus, tinea, impetigo, etc., it is invaluable. In inanition from whatever cause, especially when produced by mal-assimilation or mal-nutrition, and combined with a dry and disordered state of skin, this practice of oil-inunction is of the utmost advantage. Sir James Y. Simpson says,—"In the marasmus of children, I have more than once seen oil-inunction succeed and apparently save life when all other means and remedies had utterly failed. When the body is much reduced by morbid eliminations, or by acute or chronic disease,—as after the dysentery and diarrhœa of children,—oil-inunction sometimes forms the best restorative. In rheumatism and in the chorea of the young, when accompanied by debility, it is often serviceable." The sum of Simpson's observations is, that the practice guards weak constitutions against the effects of changes of weather and temperature, and the feeling of cold, and tendency to catarrh and chilliness, attendant upon various debilitated states, is sometimes entirely arrested and averted by oil-inunction; for it is the property of oils, as Pliny long ago remarked, "Tepefacere corpus et contra algores munire." The external, like the internal use of oil, also, is apparently more efficacious in children than in adults, the absorbing power of the skin being much greater in youth. The mode of using the oil will vary according to circumstances; but, generally speaking, a wineglassful, slightly warmed so that it may be more easily absorbed, should be applied every night at bedtime over the whole cutaneous surface of the trunk and extremities, especially where it will be most readily absorbed, between the thighs, the flexures of the limbs, and the sides of the body. For obvious reasons the night-dress should be of flannel extending well up round the neck, and down beyond the feet, although children's night-dresses might always advantageously be of this material. To further promote absorption warm sponging of the body might at first be employed, but after the first two or three weeks this is hardly necessary, as less time and friction are required the longer the practice is kept up. The oil should always be rubbed in till the process of absorption is complete, requiring at first from fifteen to twenty minutes; afterwards from ten to fifteen minutes is all that is usually required. If at first a little unpleasant, or so supposed—for the supposition is purely fanciful—it soon becomes the reverse, and greatly promotes both cleanliness and sleep; as with the bath, so with oil-inunction, many find it difficult to give up after getting accustomed to it. It is used by some Asiatic nations at this day as a great luxury, as well as a means of strengthening and refreshing the body. The Bible contains allusions to the practice among the Jews, and it formed part of the daily life of the ancient Greeks and Romans, both as a habit and luxury. Seneca particularly notices it, and Plato remarks, in his *Historia Natur.*, book xxiii. chap. 22, "Duo sunt liquores corporibus humanis gratissimi; intus vini, foris olei." I can state that, in many cases of children in which I have adopted this treatment, it has been followed by the most gratifying results.

Cod-liver oil internally, tonics, wine, milk, and careful attention to diet, etc., are also measures that may be useful as prophylactics under certain circumstances, both in this and other diseases.

But, as we have observed, croup attacks all classes and every manner and habit of life, and such being the case, notwithstanding the diligent use of any or all of the precautionary measures above mentioned, as in the neglect of them, an attack of the disease may set in. What, then, are the remedies to be used when an attack of croup has actually commenced? This leads us to consider, firstly, the medical remedies as distinguished from the surgical, which are sometimes necessary in a later stage of the complaint.

(*b.*) *Medical Treatment of Croup.*

Here also we find that diphtheria differs from croup, for diphtheria must be regarded as a constitutional disease requiring constitutional treatment; croup requires such also, but of a very different kind. The after-treatment of diphtheria and its sequelæ is frequently of vital importance; croup, on the other hand, as a general rule, requires no after-treatment.

In diphtheria, iron, quinine, wine, bark, chlorate of potash, are the chief remedies, with local application of the saturated solution of the perchloride of iron, with glycerine, chlorine, Condy's fluid, carbolic acid, etc., are used. In croup, emetics are the principal remedies; and local applications, although they have been tried and with success, can hardly be included amongst the remedial measures to be employed, both from the difficulty of their application, and the danger incident to them on account of the proximity of the bronchi. Mr G. Hamilton, in the *Edin. Med. Journal* for 1863, gives a good description of topical applications, and their mode of use, the latter being particularly interesting and instructive. M. Brétonneau, also, in his Fifth Memoir (to Dr Blache), 1855, states that he had found it efficacious, notably where the divisions of the bronchi were already affected, and surgical treatment, tracheotomy, entirely out of the question. The remedy he employed was nitrate of silver, and in one case about an ounce in strongly saturated solution on a piece of sponge was employed for four consecutive days, eight applications being made daily. As in several cases recorded by Mr Green of New York, and various others, this heroic treatment was happily crowned with complete success. Still, topical applications are not to any extent the remedies we must chiefly rely on.

What we hope for, as I have before noticed in quoting Dr Rabagliati's case, is beyond everything to get the disease in its earliest and most limited form, while still confined to the trachea and larynx; this granted, the two great points to be attended to are the limitation of the disease to these parts alone, and the expulsion of the false membranes and prevention of their reformation. Neither prophylactic nor local measures being now applicable to this state of matters, or the last in so few cases as to be practically put out of court, what must we trust to?

Blood-letting, calomel, and antimony may in suitable cases occasionally prove useful, very particularly where the patient is robust, and the croup is complicated with any other inflammatory disease, as pneumonia or pleurisy; but I am doubtful of their utility even then, and we must not forget that in cases where our patient is very feeble, and shows only very faint signs of reaction, we might cause or at least hasten death by using any of these means, however beneficial they might be under other circumstances. They should never be used in any case except at the very beginning of the disease; then, if at this very early stage suffocation seems imminent, and inflammation complicating or threatening extension of the disease, I have seen a leech applied to the top of the sternum produce very great benefit, and small doses of calomel with sugar, or Bouchut's recipe, for this stage of croup, Antim. tart., gr. 4–8; Syr. simpl., ℥ss.; Mucilag. ad. ℥iij. Sign. One teaspoonful every hour. But although good results have been obtained from them, as in some of M. Brétonneau's cases, and in those of M. Notta, recorded in the *Brit. and Foreign Med. Chir. Review*, 1865, I very much doubt if they should ever be given, and have had reason to regret administering them in some instances. Dr T. Hawkes Tanner, Dr J. Hughes Bennett, etc., are entirely, and with good reason, against the "lowering treatment," considering antimony and tartar-emetic and calomel worse than useless in croup, pneumonia, etc. They recommend wine or brandy, liberal diet, sedatives, and rest; and all treatment as subordinate to fresh air, proper food, free exercise, washing and oiling of the body, etc., as *preventatives* of disease. I fear that, in some cases at least, valuable time is lost also by the calomel or antimonial treatment; and as in this disease more than in any other we may say, *bis dat, qui cito dat.* Above and beyond all other remedies, I would place emetics to carry out the two points of treatment before mentioned, limitation of the disease, and expulsion of the false membrane, and to prevent their re-formation — Dr Tanner's or Dr Richardson's treatment, to be presently mentioned.

This being the case, the hot-bath about 96° F., poultices of hot oatmeal or linseed-meal, and mustard with emetics, are especially to be recommended. While the disease is still early, nauseating emetics may be employed; the best of these are ipecacuanha and antimony, either alone or in combination, but certainly in the more advanced stage, if not from the first; and in future I intend using from the very first appearance of croup, as I have done lately, those which do not depress, such as sulphate of zinc, and more particularly, as the best remedy in croup, sulphate of copper should be used.

Long ago used by Hippocrates and his followers as mel cupratum, still one of the formulæ of the French Codex, and most recently very extensively and successfully used by Dr Crighton of Tavistock, sulphate of copper, according to Hönerkopf, Sainter, Luzsinsky, Serlo de Crossen, Dr Hoffman, and M. Daviot, is the most valuable agent we possess in the successful treatment of membranous croup. Its only objection, when not carefully administered, sometimes even, it must be admitted, when most carefully administered, is a tendency to produce violent diarrhœa, from its action on the gastro-intestinal mucous membrane. But if employed, as it always ought to be, in half-grain doses—never, at least, in more than grain doses every ten minutes—until free and repeated vomiting has been produced, it is the most reliable of all the remedies in the cure of croup. Of fifty cases treated by sulphate of copper, in half-grain, or not more than grain doses, every ten minutes until free and repeated vomiting was produced, by Dr Crighton, all under eight years of age, and suffering from genuine croup, only six died, one after scarlatina, two during an attack of diphtheria. Copper seems also in some occult way to act as a preventive of cholera; at all events, men who are engaged in working the metal enjoy immunity from choleraic disorder. During the epidemics of 1865 and 1866, the rate of mortality among ordinary metal-workers in France was 1 in 150; in the trades using copper largely, it was only 3 in 10,000. The more freely the cupreous dust entered into the system the greater seemed the safety. We have been taught to look on copper in any quantity and form as poisonous, but it is probably always present in the liver and in the blood. It has been found by Professor Church in the pinion feathers of a bird, and by a German analyst in the flesh of horses, in the stomachs of cattle and wild beasts, in the bodies of reptiles and fishes, in flies and worms. Altogether, copper promises to play a not insignificant part in the physiological studies of the future. Regarding the utility of the sulphate of copper, Brétonneau says: "It was at the time when the Greek word λοιμος signified plague, contagion, contagious object, that diphtheria, imported into Greece by a numerous succession of Egyptian colonies, received there the name of the *Egyptian disease*, at a time more near to that of Homer than Hippocrates; and you will observe that at the same period arose the denomination of *Egyptian ointment*, a solution of verdigris in honey (mel cupratum), and this is an eminently anti-diphtheritic preparation, which bears the same name in the present day in our pharmaceutical codex. You see, my dear friends, the extent to which the medical art is yet in its swaddling clothes. You see that from time immemorial it has been provided with a valuable remedy for a fatal disease, but in vain! for when and how has the Egyptian ointment been opposed to the progress of the Egyptian disease? The name of the medicine remains, but its use has disappeared. Ten centuries later, a richer gift was bequeathed to us by a Greek physician, the great Aretæus. I here repeat, to what purpose? For when have physicians had recourse to his admirable sanitary precepts? The powerful anti-diphtheric power of the salts of copper was discovered by mistake thirty years ago (1825), at Moscow. Gingivil diphtheria was raging at the Children's Hospital, where many patients had been attacked and several had died. The progress of the disease was scarcely retarded by a timid mode of treatment, when a concentrated solution of a salt of copper was entrusted to a servant, who was to take care that it was diluted with an ample proportion of water before being distributed to the nurses in each department. From forgetfulness, the solution was employed pure, and the disease yielded so rapidly to the energetic treatment that it disappeared from the establishment." M. Delarroque, physician to the Hôpital Necker, met with great success in this way, "namely, the simultaneous employment (and in the space of an hour or an hour and a half) of local bleedings, derivatives, emetics," etc. Mr R. Hamilton, F.R.C.S. (Liverpool), a gentleman of very large experience, has found that in his practice, in the very early stage, as soon as the croupy sound is heard, the disease is easily controlled by hot baths, mustard plasters to the throat, and a *mustard emetic;* as hours elapse he would repeat these (though with fainter hopes of success), particularly if, as is most likely, false membrane has been exuded, as in such cases the mustard emetics sometimes enable them to throw off the false membranes, though more quickly forms. Calomel and antimony he has lost faith in, except in the very earliest stages, and then the above treatment (the *mustard emetics,* mustard plasters, and hot baths) having been also used, may be credited with the good result quite as much as the calomel and antimony. Ipecacuanha has been unsuccessful in his hands, and the intense nausea hurtful in other ways.

Here, however, emetina might be substituted, obviating the objection raised by Mr Hamilton and held by many others. Be that as it may, emetics, be they mustard, sulphate of zinc, or sulphate of copper, with the other measures I have mentioned, according to the different circumstances of each individual case, must be, and are, our sheet-anchors in croup, and, given sufficiently early, reduce it from one of the most to one of the least formidable affections of the organs of respiration.

Holding these views, then, I would deprecate in the strongest possible manner the loss of time, perhaps never to be made up again, in employing sternutatories, inhalations, insufflations, or mixtures of alum and honey, hydrochloric acid and honey, dry finely-powdered alum, etc., recommended from the days of Aretæus to our own, to *prevent* the formation of false membrane, too likely to be a vain hope, and fatally to disappoint the expectations of their employers. But, when the disease has yielded, and seems to have taken a favourable turn, such remedies, inhalations (with Siegle's atomizer, or, better still, with the steam-draft inhaler of R. J. Lee, M.D., made by Messrs Maw, Thompson, & Co., London) of cinnabar, vinegar, lime-water, etc., insufflation of alum, alum and honey as used so beneficially in America, hydrochloric acid and honey, and other *local* applications, as nitrate of silver, etc., in weak solution very carefully passed into the larynx, according to the mode employed by Dr G. Hamilton of Falkirk, before alluded to, or the saturated solution of perchloride of iron in glycerine, with frequent small doses of brandy, beef-tea, quinine and iron, especially if there is any diphtheritic tendency, will be found of great service.

Dr Wade, of Birmingham, and others, in this stage, have found small doses of iodide of potassium, chlorate of potash, and camphorated tincture of opium, with sometimes a few drops of liquor potassæ added, an excellent remedy as a solvent of any further deposit of false membrane. Dr Tanner, in his *Practice of Medicine*, with the same view has suggested the employment of iodide of potassium with tincture of assafœtida, etc., in these cases, and I have adopted the treatment on several occasions with much success, even in very severe cases, but not until after the emetics, poultices, and hot baths had done their work, and favourably modified the complaint.

(*To be continued*)

ARTICLE V.—*Remarks on the Etiology of "Puerperal Fever."*
By ALEXANDER BAIRD, M.D., Perth.

(*Read before the Edinburgh Obstetrical Society, at first Meeting of Session* 1878–79.)

MR PRESIDENT and Fellows of this Obstetrical Society,—No cases met with in practice give to the attendant more anxiety than those in which we have a feverish condition of a decided type during the puerperal period, and hence we have such a voluminous literature bearing on what has generally been styled Puerperal Fever. For several years no special attention has been drawn to the subject in the Society, and recent events, coupled with previous personal experience, and an extensive clinical experience of a friend, have tempted me to the presumption of saying a few words to-night on a subject which has engaged the attention of most of the great lights in the obstetric world. Very many theories have done duty in explaining the cause or causes of this condition, but it is only within recent years that an approach to unanimity has been in any way assured, and still there are many authorities who have grave doubts as to the propriety of falling in with the more fashionable ideas of the present time. As a rule, however, we find a considerable consensus of opinion marking septic infection as the principal, if not the sole, cause of the disease. It is somewhat strange that when Hippocrates first gave clinical histories of cases which are easily recognisable as of puerperal fever, that he should state that resorption of decomposing matter from retained placenta might be the main cause. Since then many able advocates have been found for as many suggestions as to cause. By some the sole necessary condition is recognised in inflammation, be it of the peritoneum, of the uterus, or of both. Others, again, consider the specific and contagious nature of the disease to be clearly made out, and maintain that it occurs in epidemics, following much the same laws as do fevers, the specific and miasmatic origin of which are undoubted. Scarlet fever has been more especially marked out as dangerous to lying-in women, and in one of my cases no other likely origin could be detected. Taking the septicæmic origin of this disease as the common or sole cause, it is difficult to see how the scarlet-fever poison should be capable of acting, but very recently cases have been recorded going to prove that even surgical pyæmia—or, rather, surgical fever—may also be brought about by exposure to the poison from scarlatina patients. If this is so—and the connexion has been noted by no less an authority than Paget—then we would have less difficulty in showing the connexion in puerperal cases. Denman first pointed out that the danger of manual propagation was considerable, and Semmelweiss subsequently showed the special danger of congregating lying-in women in hospitals, where the results of organic decomposition were so readily brought into contact with the fertile soil found in every recently-delivered woman. The frightful mortality existing in many of the then hospitals, and possibly spreading to the outside world from thence, gave rise or gave support to the idea of the fever being so frequently epidemic. Epidemics have been over and over again described, but when carefully inquired into, the frequency with which the cases occurred in the hands of a very limited number of practitioners was very remarkable. Of this we shall find a good example further on. The connexion sometimes existing between erysipelas and puerperal septicæmia seems capable of clinical proof; and the researches of Virchow have brought him to consider the pathology of the latter as internal puerperal erysipelas, being a difference more of site than in essential character. In one of my cases we had a large skin surface affected with erysipelas coming on several days after the fever had set in. The risk of the accoucheur performing post-mortem examination, and of attending upon diseases ordinarily contagious, has been often insisted upon, and were the true spirit of some critics carried into practice, we would require altogether to separate the duties of the general practitioner from those of the obstetrician. That this question should land us in such difficulties is not necessary to the making of it a very grave question, as even the general suspicion that things are not as they should be might be sufficient, in districts where no special obstetrician is at work, to send many cases into the hands of the ignorant midwife, and thereby cause a fearful mortality. If consulting physicians are expected to see cases of scarlet and typhus fevers, smallpox, erysipelas, etc., and upon the same day—possibly on the same drive—freely to examine patients suffering from non-infectious diseases, surely their risk of carrying the infection to their innocent victims is not so much less than the unfortunate obstetrician who, for aught he knows, may find himself suddenly placed as defendant on a criminal charge. The observations of Denman, the records of epidemics, the greatly-lessened mortality now shown in our lying-in hospitals,—all point to the necessity of the utmost care in disinfection and the other means now recommended to ensure immunity for our patients; but the eloquent pens of Dr Matthews Duncan and other authorities have gone far to allay alarm, and to show that if we exercise the care which our present knowledge shows to be necessary, we are in a position to carry on each branch of our work with comparatively little risk to our puerperal patients.

I hope that the Fellows will excuse my very imperfect summary of the opinion generally held as to the etiology of this condition, and I will now pass on to what is of much more value than any opinion of mine, viz., a record of clinical experience. My cases are very various in their surrounding circumstances, but all pointing towards the conclusion that puerperal septicæmia is a more correct definition than the generally accepted one.

During 1873, while acting as an unqualified assistant in Northumberland, I was busy among scarlet-fever cases, and actually in the house of one of the worst, when I was called to attend a woman in her confinement, who lived at a farm half a mile from the nearest case of fever. The labour was perfectly natural and easy, and her condition favourable till the third day, when she was seized with rigors, succeeded by high temperature, and a few days after by death. We had here none of the characteristic symptoms of scarlet fever, but in this the case agrees with many of those recorded by Barnes, and here there was no other likely cause which could be suggested. The patient was a strong countrywoman, and the labour was over so soon that no sloughing from pressure nor any degenerative changes were likely to take place.

In 1875 I was asked by a friend in England to act for him. He had of late lost several cases during their puerperal month, and felt it his duty again to leave for a time, fearing that he might be carrying about with him the too fatal poison. From previous experience of the practice, I knew well how small was his usual mortality; but at this time fever occurred in so many of his cases that he got utterly depressed in spirits, and so asked me to relieve him. My friend has kindly placed at my disposal notes, given principally from memory, of the terrible outbreak; and I cannot do better than generally to copy his own words. He begins by speaking of the horror with which he regards the subject, and goes on to say—"I got so nervous over it that for weeks I could not sleep, and even now I am compelled to avoid thinking much about it. The outbreak continued more or less for three years, and was always worst in winter. The first year was the worst. I shall never forget when one day visiting my patients I found twelve cases of puerperal fever. In the three years I had fifty cases and twelve deaths. One or two cases I cut short by profuse bleeding at the arm. I tried quinine, turpentine stupes, calomel, and opium, carbolic injections per vaginam,—but all failed. In no case could I say they did much good. Peritonitis was present in seven-eighths of the cases. All were sensible to the last. I went away a dozen times, and one year was away in all three months, on one occasion for a month at a stretch. I washed my hands with iodine and carbolic acid, and disinfected myself before going to any case, but found no change from any of these efforts of mine. Its prevalence over the country at the time looked as if atmospheric influence had something to do with it. A doctor in a neighbouring town had to renounce his practice in consequence of an outbreak. He lost thirteen cases. I have heard that at Crewe there were about twenty deaths. Although here it was confined to my practice it was not confined to cases attended by myself. My two assistants had four deaths, and my brother two or three. There was erysipelas in the district during the second year of the epidemic, and also scarlet fever. I believe the former disease to be of a similar nature, and generally prevails along with puerperal fever. Scarlet fever, I think, has nothing in common with it. The first case of puerperal fever I ever saw was when I attended a woman in articulo mortis from typhoid fever. The child was putrid, and after that we had four or five cases in my practice. Possibly in this outbreak I may have carried infection from this woman. During the worst time of last outbreak two children died in one house from a very bad type of scarlet fever. The day after the last one was buried the mother took her labour. When I arrived I found an arm presenting. I was unwilling to engage with the case, but finding her so ill, I turned with considerable difficulty. She recovered all right. If scarlet fever may be a cause of puerperal fever, here was a very favourable case; and if the doctor carries infection, this lady could scarcely have escaped after such interference in the very midst of the outbreak. I have an idea that a doctor who attends a large number of cases is more likely to get it than one who attends few." This, I think, is a very interesting account of a very terrible epidemic, and such an experience happily as has fallen to the lot of few. During the fortnight while my friend was absent I attended for him twenty-three cases. To the best of my recollection they were all favourable at the end of that time. Subsequently there were three cases of fever among them, with one death. I remember well the simple nature of the delivery in the fatal case, and the surroundings were favourable.

Since 1875 I have seen none of this septicæmic mischief till May of this year, when I attended a case which gave me much anxiety, and perhaps accounts for my troubling the Society with these notes.

Mrs S., a lady resident in a large, new, detached house in the country, was delivered of her first child on the 18th of May. The second stage was a little slow, but otherwise the labour was favourable. After removal of the placenta the uterus contracted well, though the patient felt prostrate and cold. During the next ten days the pulse was much quickened, but the temperature never responded, and on the 30th the patient sat up for an hour. During the next day there occurred, not a distinct rigor, but a cold, creeping sensation all over the body. This soon passed off. She then complained of very severe headache, which by night became excruciating, and I was sent for. The pain was more especially frontal. She spoke of nothing else being the matter, but on pressure I found in the left ovarian region a decided tenderness, and there was slight tympanitis. Temperature, 102°. Pulse, 120. I ordered turpentine stupes, a slight enema, also with turpentine, and a draught containing 15 gr. of chloral hydrate and 10 gr. bromide of potassium. The pain soon afterwards subsided, and she spent a pleasant night. Next night the headache returned and was successfully treated as before. From the first, however, we had no reduction of temperature, but a gradual increase till it reached 105°. We had, I believe, a genuine case of puerperal septicæmia. After several days of high temperature, the nurse directed my attention to a discoloured condition, evidently springing from the genitals, and knees, both front and back of the thighs. I took this at first, the spreading upwards over the lumbar region and downwards, to be a simple erythema resulting from pressure, but from its obstinacy in yielding to treatment, from the fact that it occurred in parts, viz., the front of the thigh, where pressure was not exercised, and from the extreme heat, pain, and annoyance caused to the patient, I came to the conclusion that it was really a case of diffuse erysipelatous inflammation, and that in all probability the septicæmia and erysipelas had both their starting-point in some unhealed and unhealing ulcer or abrasion, over which some decomposing matter passed or was formed. If such is the correct explanation, the case points to the very clear connexion which, in the opinion of many eminent authorities, exists as to the pathology of those diseases. On this point we have very strong opinions expressed by such pathologists as Virchow, and such obstetricians as Schroeder. The latter authority, no doubt, points out the general difficulty in fixing upon a particular case as one of erysipelas, as a discoloration may arise in the region of the genitals either from pressure or from a want of care in nursing. Between the œdematous condition of the labiæ and of the vaginal mucous membrane, and the changes found both in erysipelas and in the inflammations usually running their course with puerperal fever, pathologists fail to find any radical difference; and if we find a case presenting the distinct features of erysipelas as did the above, and occurring during a very severe attack of puerperal fever, I trust that I am warranted in recognising this as a case which helps to indicate the similarity of the two varieties of disease.

In the foregoing cases it is evident that the immediate causes were very various. My first case I have already connected with the scarlet fever poison. My friend's epidemic very curiously was not confined to cases actually attended by himself, but, more curiously, it was also spread over many of the cases attended by his assistants. Now, as the assistants not only attended women in labour, but also those who had been recently confined, and as there were at times so many persons suffering from the fever, it is evident that if the possibility of manual propagation be allowed, the circumstances were eminently favourable. The intelligent care bestowed by my friend on disinfection would in all probability have been sufficient in most cases when the centre of infection was slight, but when the disease had got such a hold, I see nothing which would be available, unless you could conceive of any one moving about constantly in a cloud from Mr Lister's spray apparatus. Besides, in a limited community there are many ways in which contagion may be carried besides by the medical attendant. The same nurse in that district often looks after several cases, and friends are not so careful in their wanderings from house to house as they should be. In the first case referred to in my friend's notes, the putrid child born of a typhoid fever patient gives a sufficient explanation of the origin of the fever, if it is possible that decomposing organic matter from without may light it up. The escape from septicæmic mischief during such an outbreak in a house full of disease germs, and in such a severe case, is an instance of a remarkable escape, for which we are always very truly thankful. In my last case the strangest point was the late onset of the disease. It is but rarely that resorption occurs after the fourth or fifth day, as a cicatrizing wound will not readily be the cause of septicæmia. In this case, however, we had a very delicate woman, and one who was at best much affected by even trivial causes. The continued high pulse went to show that matters were not perhaps so favourable as otherwise they appeared, and if the placental surface was slow to heal, throwing out putrid matter even in small quantity, or if any abrasion or ulcer occurred as above referred to, a sufficient passage must have been allowed for the small amount of decomposing organic matter required in such a case. Billroth has shown that before a healing wound can absorb, the infecting or other agent must have destroyed the granulation. At any rate, the symptoms throughout point most distinctly to this as a case which falls within the term puerperal fever, and I fully believe that the case was autogenetic.

ARTICLE VI.—*Tartrate of Morphia as an Agent for Hypodermic Injection.* By JOHN A. ERSKINE STUART, L.R.C.S.E., Dunse.

ABOUT three weeks ago, Mr Gunn, chemist in this town, introduced to my notice the tartrate of morphia, prepared by Messrs T. & H. Smith of Edinburgh, as a substitute for the injectio morphiæ hypodermica of the *British Pharmacopœia.* I have made an extensive trial of this substance, and have come to the conclusion that it is the best preparation of morphia which we possess for hypodermic injection; and besides I have found it an excellent preparation for use by the mouth, as its strength may be depended upon. A few words will suffice to point out where it has the advantage over the other preparations.

Tartrate of morphia is a white powder, not at all unlike the morph. mur. in appearance, bitter to the taste, and although quite soluble in cold water, yet the solution so formed is milky, so it is better to use hot water. It is soluble in water to a great extent, without either the aid of acids or spirits,—indeed the solution for hypodermic injection made from it is of the same strength as the Pharmacopœia injectio, viz., 40 grains to the ounce, or, in short, 1 grain of the tartrate in 12 minims of the solution, so that 2 or 3 minims is sufficient for an injection. The advantages which this solution possesses for hypodermic injection are these:—(1.) It is bland and unirritating, being as mild as water, whereas the Pharmacopœia injection is intensely irritating even when prepared by the most experienced chemists. (2.) The solution of the tartrate can be kept fresh for any length of time, while the Pharmacopœia injection soon changes colour and goes wrong. (3.) The ease with which this solution of the tartrate is prepared by merely weighing out the quantity, and dissolving it in a certain measure of hot water. The tedious process of the British Pharmacopœia consisting of repeated filterings and neutralizings, stands out in contrast to this easy process. (4.) The concentrated nature of this solution renders it a very convenient form for administering by the mouth, as it occupies such small space, and can be carried most conveniently.

In conclusion, I hope that this preparation will be taken up by the profession, as its virtues are so patent. The Messrs Smith deserve much praise for the introduction of a substitute which has been a great *desideratum* for many years.

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION

Part Second.

REVIEWS.

Hallucinations of the Senses. By HENRY MAUDSLEY, M.D. *Fortnightly Review*, September 1878.

Health and Life. By B. W. RICHARDSON, M.D., F.R.S. Daldy, Isbister, & Co.: 1878.

HALLUCINATIONS are perceptions of sensations not caused by objects. They are matters of great interest, both as popular curiosities of existence, as metaphysical problems, and as facts of grave scientific importance. Certainly it is not easy to distinguish these different elements, nor to guess the extreme limits to which the curiosity of the public may extend. There is something almost pathetic about Dr W. B. Richardson's plea for his publication, namely that the chapters in his work were originally papers in *Good Words*. And very good words they are as far as they go; not quite milk for babes, perhaps, nor strong meat for grown-up minds, and if we venture to call them spoon diet, it is with the full assurance that Dr Richardson's versatile genius can supply any quality of intellectual food, which can fairly be demanded from a distinguished physiologist and a social science philosopher. As popular papers on hallucinations, Dr Richardson's contributions to *Good Words*, which he has republished in his book on Health, are a fair and unobjectionable statement of so much of the subject as the readers of *Good Words* would be likely to understand; and as this may be presumed to have been the author's object, the absence of higher attainment can scarcely be considered a fault or a failure.

But Dr Maudsley's article on "Hallucinations of the Senses," published in the September number of the *Fortnightly Review*, and which is more or less a reprint of his lecture at the London Institution in Finsbury, aims at higher game, and makes game of higher aims. It is not food, but confectionery, with plums of anecdotes, a spice of irreverence, and a crust of philosophy. Of the anecdotes, which in medical writing are called cases, some he appropriates from other authors, and others, not appropriate, he contributes himself. Could anything be less appropriate as an illustration of hallucination than his first example "of an old gentleman who was much distressed because of an extremely offensive smell which he imagined to proceed from all parts of his body," and which fancied stench he believed to be offensive to every one who came near to him, and even to horses on the cabstands, but which he does not appear to have perceived himself? At all events, if he did do so his medical biographer omits to make any mention of the fact, leaving the case quite open to the explanation that the old gentleman was the subject of delusion without any hallucination whatsoever. A man who believes that other persons have perceptions of his sensations which cannot be true in fact, is pretty sure to be the subject of delusion; but unless the man himself has the false perception, he of course is not hallucinated.

It does not strike us as a remark "very full of meaning," though the author says so, that the hallucinations of different ages are in harmony with the ideas or beliefs of the age. This seems rather of the nature of a mare's-nest, discovered, perhaps, for the purpose of incubating the illustration that apparitions of Satan, not uncommon in the Middle Ages, are not recorded in the literature of Greece or Rome, because at that date "the Satan of the Middle Ages who gave Luther so much trouble had not been invented." Doubtless the fashions, in which the devil has figured to the fancy, would vary according to the modes in which men think and clothe the embodiments of their thoughts in different ages, and Luther's Satan might not much resemble the Mephistopheles of Dr Maudsley. But even this favourite character speaks of "meiner Muhme die berühmte Schlange;" and the record of Job proves that he is not the mere *parvenu* here described. The personification of evil, no doubt, does vary as the notion of evil itself varies. Dr Maudsley does not tell us what his may be, but his personification of good is succinctly expressed in this sentence, "so to observe Nature as to learn her laws and obey them, is to observe the commandments of the Lord to do them." But has not Nature, as a divine being imposing laws upon us, been invented still more recently than the Middle Ages, as Dr Maudsley calls the time of the great Reformation? and is not all this fringe of speculation a tissue of irrelevant rambling?

Dr Maudsley has in all his writings ostentatiously posed as the Prophet of the most advanced school of thought; as such his teaching of the Special Providence which rules the world cannot fail to be of interest:—

> "Had Mahomet (he says) never seen the angel Gabriel, it is possible that the great mission which he accomplished—the overthrow of idolatry and polytheism, and the welding of scattered tribes into a powerful nation—would have been accomplished either by him or by some other prophet, who would have risen up to do what the world had at heart at that time. Had any one else who had not Mahomet's great powers of mind, and who had not prepared himself as he had done, by many silent hours of meditation and prayer, to set up the reformer's cross, seen the angel Gabriel, or any number of angels, he would not have done the mighty work. *Who can doubt that the mission of Mahomet was the message of God to the people at that time, as who can doubt that the thunder of the Russian cannon has been the awful message of God to the Mahometan Turks of this time?*"

We pass on to note our author's views of the causes and treatment of hallucinations. This is indeed a subject worthy of steadfast and patient inquiry, and of investigation into the laws of nature, if one likes that bouncing style of expressing the sequence of events as they occur in and around us. A true appreciation of the causation of these perceptions, without objective basis, may not only lead to important results in the demesne of mental medicine, but is likely to extend our knowledge of the physiology of mind in health, not the physiology and pathology of *The* Mind, as Dr Maudsley called the first edition of his work, with a rare dimness of perception as to the incongruity of ideas. Physiology of mind is a term vague enough—as vague, indeed, as we should think physiology of life; but physiology of *the* mind is an idea which, like Falstaff's of Dame Quickly, one knows not where to have it. Physical or metaphysical, we must have either *the* physiology or *the* mind.

Dr Maudsley divides hallucinations into those "produced by the dominant action of idea upon sense," and into those which "appear to originate directly in the organ of sense, or in its sensory ganglion, which for present purposes I may consider as one."

Baillarger and Brierre de Boismont, who are consistent in their belief that there is a mind—that is, *the* mind—independent of physiological operations and molecular movements, adopt a parallel division of hallucinations into psychical and psycho-sensorial, although it is founded upon a distinction which could not withstand the criticism it evoked at the time when their able writings were still fresh in the minds of men. But to resuscitate this division of hallucination on physiological grounds, which is intelligible enough on the psycho-sensorial platform, is a curious and amusing illustration of the want of thoroughness in writers who adopt the somatic theory of mind more as a dogma of belief than as a standing-point of scientific inquiry.

Lastly, Dr Maudsley says with much truth that there is more to be done to prevent hallucinations than to cure them. Habitual contact with realities in thought and deed, he wisely remarks, is a strong defence against illusions of all sorts.

True to his prophetic *rôle*, Dr Maudsley concludes his lecture with the following characteristic rhetoric:—

> "So to observe Nature as to learn her laws and to obey them is to observe the commandments of the Lord to do them. Speculative meditations and solitary brooding are the fruitful nurse of delusions and illusions. By faithfully intending the mind to the realities of nature, as Bacon has it, and by living and working among men in a healthy sympathetic way, exaggeration of a particular line of thought or feeling is prevented, and the balance of the faculties best preserved. Notably the best rules for the conduct of life are the fruits of the best observations of men and things; the achievements of science are no more than the organized gains—orderly and methodically arranged—of an exact and systematic observation of the various departments of nature; the noblest products of the arts are nature ennobled through human means, the art itself being nature. There are not two worlds—a world of nature and a world of human nature—standing over against one another in a sort of antagonism, but one world of nature, in the orderly evolution of which human nature has its subordinate part. Delusions and hallucinations may be described as discordant notes in the grand harmony. It should then be every man's steadfast aim as a part of nature—his patient work—to cultivate such entire sincerity of relations with it; so to think, feel, and act always in intimate unison with it; to be completely one with it in life, that when the summons comes to surrender his mortal part to absorption into it, he does so not fearfully as to an enemy who has vanquished him, but trustfully as to a mother who, when the day's task is done, bids him lie down to sleep."

Papers on the Female Perinæum, etc. By J. MATTHEWS DUNCAN, A.M., M.D., LL.D., F.R.S.E., Obstetric Physician to St Bartholomew's Hospital. London: J. & A. Churchill: 1879.

As many of the papers forming this volume have already appeared at one time or other in the pages of this Journal, our readers are familiar with the general drift of the work and the special views urged in it. There is, however, internal evidence that the author in arranging the original material in book form has subjected the whole to a rigid revisal.

The varieties, frequency, and causation of perinæal rupture in primiparæ and in multiparæ, are exhaustively treated, and the views of the author supported by short records of upwards of fifty cases. Dr Duncan, more strictly than we have elsewhere seen done, makes a broad distinction between dilatation and rupture of the vaginal outlet, and dilatation and rupture of the perinæum. These processes, so widely different in reality, are seldom separated in description as they ought to be, and as Dr Duncan has done in the work before us.

Our author finds, from an examination of his cases, that the vaginal outlet is *invariably* torn in primiparæ, that indeed a full-sized child's head cannot pass the vaginal outlet without more or less of a longitudinal tear towards the posterior edge of the vagina, whatever else may be torn. He also finds true tears of the perinæum in the large proportion of 60 per cent. of all his primiparous cases. Rupture of the vaginal outlet, though frequently occurring in multiparæ, is found in them only in relatively slight degree, and ruptures of the perinæum are extremely seldom. We believe Duncan by no means overstates the liability of the perinæum to tear in primiparous cases. Though, of course, the great bulk of such ruptures are slight and ordinarily are unimportant, a certain proportion of them are deep, and any of them may establish a source of infection whence the patient's system may be fatally poisoned.

After finding the frequency of perinæal rupture so incontestably established by careful observation, one is shocked to hear it stated by obstetricans of many years' experience, that notwithstanding very frequent operative interference by them, they never met with a tear of the perinæum in a lifetime.

Dr Duncan's observations upon central rupture of the perinæum are especially worthy of consideration. He believes that accident in one degree or other to be a comparatively frequent occurrence, and not a rare lesion, as it is usually considered.

In regard to the measures to be adopted for the avoidance of perinæal tear, Dr Duncan ranks himself on the side of those obstetricians who support the perinæum during the passage of the head and shoulders, believing that this assistance not only affords comfort to the patient, but tends to prevent rupture.

The author's well-known and exceedingly original views in respect to the etiology of procidentia uteri, and the relation of perinæal rupture to that lesion, are given very fully. The work also includes chapters upon the treatment of procidentia uteri, and upon the restoration of the perinæum by operation. The method described for conducting the latter operation is extremely simple, and excludes all attempts at complicating this useful and easy operation. We hope the profession will give to this chapter the attention it deserves, because they will find from it that this operation, so frequently enveloped in such a cloud of perplexing directions in reference to the formation of certain flaps of mucous membrane in this and that situation, and to the introduction of separate vaginal, rectal, and perinæal stitches, is reduced to such simplicity as ought to make every obstetrician perfectly assured of being able to perform it successfully.

His method briefly stated is to raw the edges of the wound well and to embrace the whole thickness of it in a series of interrupted silver sutures, which are placed at intervals of about ⅓d of an inch apart, and are tied in the rectum, commencing with the one highest up, until the rectovaginal tear is drawn together, if such exists, and subsequently over the perinæum. If no rectovaginal infarction exists the stitches are to be tied over the perinæum only. The stitches are not to be removed till the seventh or eighth day, and the bowels are kept constipated by opiates. We almost think the latter recommendation is an unnecessary one.

We have seen no description of this operation comparable to it in simplicity, except that of Dr Bantock, contained in his valuable little work upon this subject. Dr Bantock recommends the use of strong catgut sutures as being less irritating to the tissues than the silver wire, or at least as giving the patient less inconvenience.

We are inclined to doubt the author's statement as to the invariable concurrence of vaginal prolapse with uterine procidentia. In the course of an experience much more limited than Dr Duncan's, we have seen and carefully studied at least one well-marked case of complete uterine procidentia, where the bladder maintained its natural position. It is difficult but not impossible to imagine that such a degree of elongation of the vesico-uterine attachments, intimate though they be, could take place so as to allow of complete procidentia uteri as in this case, without cystocele. We think this state of matters existed in the case to which we have referred.

The author's recommendations regarding the treatment of procidentia uteri may be thought by some to be meagre. But we are convinced they include almost all that is justifiable and useful in principle.

In conclusion, we may state that we have read the work with great pleasure and profit, and recommend it to the consideration of our readers as a specimen of what honest work and careful observation can effect in enlarging our knowledge in an all-important but very greatly neglected department of gynecology. We hope, in the interests of woman-kind, that the work will secure from the profession an amount of attention corresponding to its merits. If so, many obstetricians will have more regard in the future to the perinæum at delivery, and many of their patients will pass their lives in greater happiness and comfort.

Transactions of the American Gynecological Society. Volume Second for year 1877. Boston: Osgood & Company.

THE book before us forms a handsome volume of 697 pages, and contains nearly double the matter which that for 1876 did. The papers exhibit a freshness, freedom, and frequently originality of expression that are extremely pleasing to the reader, and contrast very advantageously with the severity of manner and heaviness of style so often adopted by medical authors among ourselves. The volume also demonstrates in itself the fact that our American brethren are developing a healthy caution in some departments in which we believed they were more inclined to interfere than ourselves. This is especially observable in the President's annual address, in Professor Lusk's paper upon the necessity of caution in the use of chloroform during labour, in Dr Ely Van De Warker's paper upon the present status of the intra-uterine stem in the treatment of flexions of the uterus, and in the discussion upon Battey's paper, entitled "Is there a Field for Battey's Operation?"

Among the contributions in the volume of greatest interest may be mentioned one by Dr Chadwick of Boston, on the function of the anal sphincters, in which he maintains that only the external sphincter ani is properly so called, and that the internal sphincter and the circular bands of fibres higher up, called by Hyrtl the third sphincter ani, are essentially detrusors, and in their function obey the conditions of peristaltic action of the circular fibres of the intestines generally.

Dr Byrne, of Brooklyn, in a lengthy paper, compares the various methods of operation in amputation of the cervix uteri, concluding strongly in favour of that with the incandescent galvanocaustic wire.

Dr Dalton, of New York, furnishes an exhaustive and valuable report on the corpus luteum, which is beautifully illustrated by coloured lithographs.

Dr E. H. Lyman, of Boston, is the author of a valuable paper upon dilatation of the cervix uteri for the arrest of uterine hæmorrhage, illustrated with cases.

We are glad to observe that the use of the intrauterine stem in flexions of the uterus meets with gradually decreasing support among American gynecologists, as may be gathered from the discussion upon Dr Ely Van De Warker's paper upon that subject.

Dr Goodell furnishes an interesting paper upon vaginal ovariotomy; and in another contribution Dr H. P. C. Wilson advocates strongly the use of the subsulphate of iron as an antiseptic in the surgery of the pelvis.

A paper on sarcoma of the ovaries, by Dr Atlee, is also included. But it would almost appear that the cases were improperly so styled, and really were more allied to carcinoma than to sarcoma.

Dr Paul Mundé discusses at great length the electrolysis of ovarian tumours, and reviews the results said to have been obtained from this method by Semeleder, Fieber, and especially by Von Ehrenstein. His conclusion is, that a certain proportion of ovarian cases have undoubtedly been cured, and others benefited by this method of treatment. He thinks the benefit is probably due to some occult influence on the secreting and absorbing powers of the cyst walls. He does not think it is explainable, on the view that the needles used for electrolysis established an oozing of the contents of the tumour into the peritoneal cavity.

The percentage of beneficial results, however, are far behind those obtained by ovariotomy, whilst the percentage of deaths may equal those following ovariotomy, so that the method could never replace the ordinary operation. He would restrict the treatment to small monocysts and large tumours unilocular or multilocular, in which the presence of pelvic adhesions rendered the operation of ovariotomy impracticable. The conclusion arrived at by Dr Mundé is so startling that one is inclined to believe that there must have some radical errors crept into the data whence it is derived. It is accordingly satisfactory to find in a letter from Dr Altzmann of Vienna to Dr Mundé, published in the *American Journal of Obstetrics* for October last, p. 748, a specific denial of most of the asserted cases published by Von Ehrenstein. Dr Altzmann states that in Vienna the treatment is given up as entirely useless.

Among the other important papers may be mentioned one by Dr Engelmann on Hystero-neuroses, and another by Dr H. J. Garriques on Lying-in Institutions. We are glad to find the latter in no way possessed by the senseless dread of maternity hospitals, which did so much harm here and elsewhere some years ago. He considers maternity hospitals with a number of yearly confinements not exceeding a thousand are not to be feared, and thinks that antiseptic preventive treatment is exceedingly valuable.

The discussions throughout the work are extremely interesting, and, regarded as a whole, we think the volume will well repay perusal, and indicates plainly the existence of an active, healthy, and progressive spirit among American gynecologists.

The Transactions of the American Medical Association. Vol. XXVIII. *Report on Animal Vaccination.* By HENRY A. MARTIN of Massachusetts. Pp. 187–248.

THIS is a large handsome volume, of nearly 700 pages, containing many important papers, reports, and cases which might all be considered with advantage. On this occasion, however, we must confine our attention to the subject of animal vaccination. We have read Dr Martin's very able and exhaustive report with much interest, and are so impressed by its value and its bearing on the welfare of our species, that we shall endeavour to make it known to the readers of this *Journal*, whose notice it might otherwise escape. To attempt more than an accurate statement of results can hardly be expected in our necessarily-limited space. The original paper will amply repay a leisurely and unprejudiced perusal.

What is true Animal Vaccination?

1. Vaccination, effected either casually or intentionally from the

disease occurring spontaneously in the milch-cow. Jenner, it will be remembered, held that the vaccine vesicle was caused by the animals being milked by men whose hands had been brought into contact with the *grease* in horses. If this be a correct view, it explains the rarity of the original vaccine vesicle.

2. *Retro-vaccination*, or the inoculation of bovine or other animals with *virus* from the vaccine disease in human subjects. This has been often done from a very early period, and it was hoped that, by this device, "all difficulties would be removed, impurities purged away, and pristine vigour recovered;" but Robert Ceely of Aylesbury—the most reliable investigator of the whole subject since Jenner—reluctantly confessed that long-humanized *virus* gains nothing by passing through the bovine system, either in strength or purity. Although this opens up several points of scientific interest, *retro-vaccination* may be practically dismissed as a source of supply.

3. Inoculation of bovine animals with *variolous virus* has been tried in the hope of inducing a cowpox which will restore the vigour of vaccine 'stocks.' This has failed in hundreds of cases, and it is doubtful if it has truly succeeded in any; but more than once or twice the result has been a wide diffusion of smallpox. Dr Martin says, "The writer would here state his conviction that, in some mysterious manner, Nature elaborates *vaccinia* from *variola* in the system of the milch-cow, but that man can, with no certainty or safety, repeat her process at will, nor does Nature herself accomplish it always with equal success."

4. *True animal or bovine vaccination* may be thus defined:—"The inoculation of a young selected animal of the bovine species, from an original spontaneous case of cowpox, from this others, and so on in continuous and endless series as a source, and the only source, of *virus* to be used for the protection of the human race from *variolous* disease." This method was inaugurated in America, in September 1870, from a small supply of *virus* sent to Dr Martin in letters. Shortly afterwards he obtained an ampler supply from Professor Depaul of Paris. Securing the use of a farm on which were nearly fifty young bovine animals, he very soon exhausted his supply of lymph in vaccinating nine or ten of them. In no one case did these animal vaccinations fail; and having thus ample supplies of animal lymph, he devoted himself "to daily vaccinations of infants, some exclusively with the animal virus, but most of them on one arm with the old stock (that of the National Vaccine Institution of England), and on the other with that from the heifers." He had thus, from daily careful observation, the very best opportunities of comparing the apparent merits of the new lymph with those of the old long-humanized stock, familiar to him for a quarter of a century. During thirteen of these years vaccination had been prosecuted by him as a specialty.

An interesting history is given of animal vaccination in Europe.

In 1810, Dr Galbiati of Naples published an article on the subject. Seven years previously he had adopted the practice, from a conviction, the result of several cases which had fallen under his notice, that *syphilis* might be, and had been communicated to the human subject in the operation of vaccination from the arm. That this is no imaginary evil must be the belief of all experienced observers who have thought upon the subject, and all the more since the luminous paper of Mr Jonathan Hutchinson in the 54th volume of *The Medico-Chirurgical Transactions.* We shall revert to this afterwards. Galbiati, like other innovators and reformers, was so ridiculed and insulted by his countrymen that he became insane and committed suicide. His disciple, Dr Negri, continued to practise animal vaccination, and eventually it became the general method both in Naples and in other Italian cities. As the result of Negri's practice and teaching, the subject attracted the attention of Dr Lanoix, a young French physician, who, in November 1864, returned to Paris with a heifer, nine months old, vaccinated by his teacher. In that city many *savans*, particularly Professor Depaul, already mentioned, investigated the subject experimentally; and a strong impression prevailed, in spite of assertions to the contrary, that the lymph obtained from Naples was *retro-vaccine*, not *true heifer-transmitted* cowpox. In April 1866 a case of spontaneous cowpox at Beaujency, a town 15 miles from Orleans, was reported to the Academy of Medicine. Professor Depaul went to see it. Every care was taken to ascertain and authenticate all the facts concerning it; and the inquiry was followed up by the inoculation of a cow and two children from the vesicles. In all these the operation succeeded, beautiful characteristic vesicles being formed at each point of insertion. Without going into further details, the Beaujency *virus* was distributed far and wide; and it may be mentioned that the *virus* brought to America was from the 258th, 259th, and 260th animal of Dr Depaul's series, beginning with the heifer of Beaujency. During the Franco-German war and the siege of Paris animal vaccination ceased there, for obvious reasons.

Dr Martin believes that the intervening years, during which this *virus* has been transmitted, afford proof that, in a period much longer than is found to involve very great deterioration and change in lymph of human transmission, true animal vaccine suffers no essential change or deterioration whatever. Of course there is room for difference of opinion in questions of this kind; but the exceptionally great experience of Dr Martin, both in human and animal transmission, entitles his verdict to the highest respect. "When this truth," he says, "shall come to be appreciated in its full force, and, as a result, governments see the propriety of being the sole guardians of the sacred treasure to be issued freely and amply for the perfect protection of the people by vaccination and re-vaccination, we may begin to have some faint hope of that full, perfect, universal vaccination which Jenner and his early followers always maintained would annihilate the smallpox."

"*Does the practice of animal vaccination offer such advantages over that with long humanized virus as to justify us in abandoning the latter and adopting the new method?*"

The author, in order to answer this question satisfactorily, describes at considerable length the peculiarities—1, Of vaccinia induced by the use of original cowpox virus; of early removes therefrom; and 2, of the *virus* of long humanized cowpox. We shall try to give the more salient details.

1. A regular succession of phenomena varying in duration from 21 to even 32 days. These are—papulation at points of insertion at end of the third or beginning of fourth day; appearance of vesicle at end of fifth day; commencement of areola, end of ninth or beginning of tenth day; decline of areola, end of the twelfth, or the twelfth, even the thirteenth day; the vesicle growing until, or a day or two after the decline of the areola; the secretion evidently increasing in the periphery of the vesicle after its centre has begun to desiccate; complete desiccation and consequent formation of scab or crust, seldom before the sixteenth or seventeenth day; the crust never falling off before the twenty-first day, sometimes not till the thirty-second day; the crust of the same round shape as the vesicle, about two-thirds of its size, with a decided umbilication or depression in the centre, and of a rich dark brown, mahogany, or amber colour. It was noticed by Jenner and his early followers that the vesicle did not tend to spontaneous rupture, and that the tissues involved were those of the true skin to a considerable depth. "An important peculiarity of true cowpox vaccination, or of that with early removes, even to a very considerable number from the cow, is a very decided *febrile reaction*, usually coincident with the rise, development, and decline of the areola." Jenner regarded the occurrence of this febrile reaction as the test of a perfect vaccination such as *alone* was prophylactic of smallpox. Another important characteristic was, and is, a cicatrix or indelible scar of a peculiar and well-defined type.

2. Peculiarities of *long-humanized vaccination*. One is, a great diminution in duration. In very numerous vaccinations performed with lymph sent to Dr Martin by Mr Ceely, the course of the disease usually lasted eleven days, from insertion till the crust either fell or could be readily detached. He used it in many cases along with lymph from a French "stock" of a very early human remove from the cow—one on one arm, and the other on the other—and each *virus* preserved its distinctive qualities perfectly, without the slightest tendency to hybridize. The French *virus* produced a large full vesicle, a vivid broad areola, and a firm, dark, well-formed crust—never easily detached before the twenty-first day, and seldom falling before the twenty-sixth day.

These facts are very interesting, as the author observes, in a cientific point of view, and suggest various inquiries.

"In brief, it may be said that *virus* of long humanization induces a disease of much briefer duration and intensity than original and early *virus*." Other points might be mentioned as distinctive features, but two will suffice. *Erysipelas* is an occasional complication of vaccination with humanized lymph. Strange to say, Dr Martin has never seen it follow vaccination from a bovine source. The difference of the scar, already referred to, deserves serious attention. "Contrary to a very fashionable opinion, I state very distinctly that a perfect typical vaccination of a duration and intensity at all approaching a proper standard, and which has not been interfered with in a very unusual manner, results in the production of a scar as distinct and defined as if stamped by a sharply-cut die; and that the scars of a hundred such vaccinations are almost as like each other as the impressions on a hundred coins fresh from the mint." "This matter of the vaccine scar seems to me of very great importance, and I think the sooner the profession accept as a fixed fact that, as a *general rule*, there is a direct relation between the perfection of a vaccination and the typical perfection of the resulting scar the better."

Dr Martin informs us that he had not made and fully observed half a dozen human vaccinations with the animal lymph, before he fully recognised its correspondence in every minute particular with the *vaccinia* described by Jenner and the fathers of vaccination, whose works and drawings he possessed, and with which, from day to day, he compared them. He mentions another important observation, that during last winter (1877–8) he carefully tested a series of vaccinations from the 570th animal of his own series, the 830th since the original case at Beaujency, and could detect no shortening of the duration of the induced disease, no indication of change, however slight, from the standard of excellence observed in his first vaccinations over six years before.

Some statistics are given which are very interesting, but we have no space for them here, suffice it to say, that Dr Martin holds "that an adult vaccinated once and in infancy is almost sure to 'take' when revaccinated with perfect *virus*, and that a person, twenty-five years old, first and well vaccinated at five years and upwards, can hardly ever be revaccinated with a decided result."

Alleged Disadvantages of Animal Vaccination.

1. *That the vaccinia so induced is objectionable, and even dangerously violent.*—This is certainly incorrect, and without foundation in the experience of many thousand practical men.

2. *That animal vaccination is liable to be the means of communicating other diseases.*—There is not an authentic record, hardly even an unauthentic one, of any such occurrence.

3. *That animal virus does not "take" easily.*—It is certainly much less soluble than that from the human subject; but this, when known and kept in mind, is no objection.

4. *It does not keep well.*—In tubes 20 per cent. will fail, but on bone or ivory points, or in the dried vesicle, it is reliable.

5. *The success of animal vaccination is difficult to achieve.*—It requires to be used freely and with patient diligence; with these success is very certain.

6. *The expense and difficulty of obtaining the virus.*—The remedies for this are:—Government providing a reliable supply; appointing thoroughly efficient, responsible, and well-paid officials for the effectual vaccination of the poorer classes; while those able to pay shall be expected to give a fee for the vaccination in some degree corresponding to the greatness of the benefit conferred. Every one who thinks on the subject must be satisfied that, in this country no less than in America, vaccination from ignorance, and an inadequate sense of its social importance, is very often little better than a sham.

Advantages of Animal Vaccination.

1. It can hardly be doubted that the nearer the intentionally induced disease approaches in its phenomena to that casually produced on the hands of the milkers, which has alone been *absolutely proved* to be permanently protective, the safer are we in assuming for it a like permanently protective influence. Although animal vaccination is of primary importance, it must be granted that a few removes, say even twenty from the animal, may be regarded as also sufficiently protective, while the risk from *erysipelatous* or *syphilitic poisoning* may be guarded against by scrupulous inquiry and care.

2. It is good to have the power of renewing at will a doubtful "stock" by a return to the animal.

3. Making all allowance for popular prejudices and exaggerations of danger from vaccination obtained from sources whose purity we cannot certify with confidence, it cannot be denied, as already hinted, that such risk is not altogether imaginary. Let us only bear in mind the degraded and immoral classes who come to dispensaries, and we shall feel that hereditary disease *may* be communicated by the channel of vaccination. How important, therefore, that a physician may be able to say that he obtained the *virus* which he is about to use, if not from a healthy animal, at all events from the arm of a child only a few ascertainable removes from that original source.

4. "True bovine lymph is certainly free from all possibility of syphilitic contamination." This consideration ought to recommend the practice, even were the risk from prolonged human transmission almost infinitesimal. But it is not so. Such cases of contamination are not likely to be reported, and even if they were, the official red-tape mind is almost sure to ignore them when so reported by ingenuous private vaccinators. Besides, the very nature of the discovery—the result being irremediable—will render such reports exceptionally rare.

5. "A very great advantage of animal vaccination is in its ability to furnish large amounts of *virus* regularly, and at very short notice." Of course this implies the existence of a well-organized establishment for maintaining a sufficient herd of animals, kept separate from each other, under responsible and competent officials. In the event of an epidemic of small-pox an indefinite supply of reliable vaccine *virus* would thus be available. A great and invaluable opportunity then occurs for the thorough vaccination and revaccination of the community, who are for the time alive to the danger and its remedy; and it is interesting to know, on Dr Martin's authority, that the capacity of such an establishment, for animal vaccination, to supply vast amounts of *virus* has been repeatedly proved in America during the prevalence of recent epidemics. We in this country know too well that, on such occasions, there has been a fearful *vaccine famine*, rendering it necessary to employ every drop of reliable lymph that could be drained out of perfect vesicles, and even to have recourse to the very doubtful products of revaccination vesicles, and other vesicles which, in ordinary times, would be regarded as spurious and unsatisfactory. If this was done by honourable practitioners at their wits' end for lack of vaccine lymph, it is painful to think what shifts the unprincipled or the ignorant may have had recourse to. Surely this in itself is a powerful plea for *bovine* vaccination under Government control.

6. A plentiful supply of lymph renders it unnecessary to tap the vesicles unduly. Jenner was certainly right in pressing the importance of allowing one vesicle at least to remain intact if the system is to be protected; but in *vaccine famine*, as we have already shown, this essential rule can seldom be observed.

7. Animal vaccination is admittedly expensive, and can seldom be provided by private enterprise. It will always be expensive, unless Government undertakes the maintenance and management of the necessary institution.

8. This being done, it will be of great importance to the medical profession to draw the material for vaccination from a known responsible source, to which all complaints can be referred.

9. The immunity from *erysipelas*—only one case in an aggregate of many thousands being known—has been already noticed.

10. To those who propagate and collect their own *virus* there are decided advantages in the perfection of the vesicle, the longer period in which it yields fluid virus, and the uniformity with which a firm typical crust results.

11. Another very important advantage may be added. All practitioners have met with cases which have been again and again revaccinated without any result, and after being pronounced *insusceptible* have nevertheless taken small-pox. Such cases are very numerous. Dr Martin asserts that only about 35 per cent. of those who are revaccinated with old humanized lymph experience

vaccinal effect, whereas no fewer than 80 per cent. of those revaccinated with *animal virus* exhibit a satisfactory result. This 45 per cent., we may reasonably conclude, represents approximatively the number of those persons who, insensible to the enfeebled influence of long-humanized vaccine virus, are yet liable to be affected by the *intense contagium* of small-pox. That is to say, that instead of concluding that because they have resisted revaccination with ordinary *vaccine virus* they are safe from small-pox, we ought logically to infer the very reverse, seeing that animal *virus*, or *virus* of a few human removes, has produced the desired effect. It may be accepted as a reasonable doctrine, that just in proportion as a human being is liable to the effect of the inoculation by *perfect* vaccine lymph is he liable to the contagion of *variola*.

Dr Martin concludes his valuable report by endeavouring to answer the question—How can animal vaccination be made more available to the profession and people of America? We cannot give his answer in full; but it virtually amounts to this: A cordial recommendation of the system adopted in Belgium, "a country in which it is notorious that things are done in the best way at the smallest expense, with the rarest wisdom and delibèration, and with the most rigid economy." Dr M. Warlomont introduced animal vaccination at Brussels in January 1865, and carried it on as a private enterprise. The Government, after waiting a year and a half until the experiment had received the sanction of time, and having consulted the Academy of Medicine and various provincial councils of practitioners, created what is now called the Vaccinal State Institute of Belgium in 1868. Dr Warlomont continues his original institution, disposes of his virus, and vaccinates patients of the better classes for his own private emolument and reward. The Government simply endorses his efforts, with the full accord and approval of the medical profession, and, as evidence of this, permits him to call his institution "L'Institut Vaccinale de l'Etat," and for certain services rendered to the public grants him a moderate annual subsidy. It will be seen that by this arrangement he who controls the institution has the stimulus and incentive of increase of private emolument.

Le Climat de Menton, son Influence sur le Traitement de la Phthisie Pulmonaire, étude clinique. Par Le Dr JACQUES-FRANÇOIS FARINA, Médecin Honoraire de la Ville et de l'Hôpital de Menton. Pp. 128. Paris: 1879.

DR HENRY BENNET'S *Winter and Spring on the Shores of the Mediterranean* is so complete in matter, and so charming in style, that it must long continue to be looked upon as the leading hand-book for

Mentone, and all the health-resorts of the Riviera, together with many other places more or less adjacent, or more or less in repute for analogous climatological characters. Nevertheless, it is interesting to read a good medical account of Mentone written in another style, by another able resident physician, who states in an instructive and interesting manner the results of his large experience.

Dr Farina thus tells the reader what Mentone was in the past, and what it is now:—

"Mentone, the attractive little place situated on the shores of the Mediterranean between Monaco and the Italian frontier, had always belonged to the Grimaldi family, princes of Monaco, prior to the French Revolution, and likewise after the fall of the First Empire. It had never emerged from the obscurity in which its existence was ignored, had not the breeze of the liberal ideas of 1848 awakened the love of liberty in its inhabitants. It was then that it separated itself from Monaco, to place itself under the protection of Piedmont. Ever since, and particularly as a consequence of its annexation to France, the moral and material conditions of this charming place have entirely changed: it has risen rapidly to wonderful prosperity. At the present day, its importance as a winter station surpasses everything which could have been imagined. It must also be stated that in situation and in climate, it offers many advantages which one would elsewhere look for in vain."

The subjects discussed in Dr Farina's little volume are varied and interesting. Its value is enhanced by numerous tables, meteorological and statistical, together with a good map showing the geographical position of Mentone. The first chapter is devoted to the vegetation of Mentone, its temperature, its general meteorology, and its division into the littoral and inland zones. The second chapter treats of phthisis in a general way, and gives a classification of 463 pulmonary invalids treated by the author. Of the 463 patients, 346 have passed only one season at Mentone since 1866, and 117 of them have, since that period, passed several. Dr Farina considers that it is important to make a separate study of the effects of climate on these two groups. By adopting this division, he says that he has been enabled to simplify the tabular statements as to age, sex, marriage, celibacy, and the form of the disease. From one of Dr Farina's tables it appears that in his cases marriage exerted, in both sexes, only a slight influence upon the development of phthisis and of chronic diseases of the chest. Celibacy, on the contrary, seems to be more a predisposing cause of these affections in men than in women. This he naturally explains by the fact that men, from the very circumstance of being bachelors, often lead a disorderly life, whereas unmarried women are not so liable to that danger. In the third chapter, the predisposing and determining causes of phthisis are discussed, and some illustrative cases are described. The fourth and fifth chapters bear particularly upon the climatic influences of Mentone, and on the hygienical, therapeutical, and alimentary treatment of the classified cases.

However conscientiously and carefully observed and manipulated, the kind of statistics presented by Dr Farina always have in them much that is slippery and unsatisfying. The individual data are, when narrowly examined, often found to be only conjectures and probabilities; and, therefore, undesignedly more or less moulded by the manipulator's bias. This remark is one of much importance and of general applicability, and is in no way pointed at Dr Farina, who has evidently exerted himself to the utmost to state the truth, and nothing but the truth. In the following passage we have the essence of the author's experience, and a condensation of the principal materials constituting the work now before us:—

"The cases of tubercular phthisis were 208, in which number there were 20 cures, 109 ameliorations, 29 uninfluenced, and 50 deaths. The relative frequency of the different forms which the disease assumed may be thus tabulated:—

	Total.	Recovery.	Amelioration.	No change.	Death.
Galloping, or very acute, without hope, . .	26	0	0	0	26
Acute, without complications, ...	24	0	6	12	6
Subacute, without complications, . . .	50	3	37	7	3
Caseous, ...	5	4	1	0	0
Chronic, with or without complications, . .	103	13	65	10	15
Total, . . .	208	20	109	29	50

From a general consideration of these figures, the mortality appears to have been a little less than 25 per cent.; but if we deduct from the 50 deaths the 7 cases in which the patients died a few days after their arrival, and the 19 in which the fatal issue occurred within two months, we reduce the 50 to 24 deaths, which is the real mortality considered in relation to the different phases of the disease and the influence of climate. Thus reckoning, the deaths may, perhaps, be approximately estimated at 12 per cent., the ameliorations at half the number of the cases, the cases in which no change took place at 15 per cent., and the cures at 10 per cent. There were 119 cases of chronic bronchitis and chronic laryngitis, in which the results were as follows—87 ameliorations, 25 cures, 5 unchanged, and 2 deaths. In this class, therefore, the ameliorations were more than two-thirds, and the cures nearly a fifth of the total number of cases. The pneumonic phthisiogenic processus was represented by a total of 46 cases, of which 33, or more than two-thirds, were ameliorated, and 13, or a little less than one-third, were cured.

"There occurred 42 cases of disease of different organs, in which there were 16 ameliorations, 24 cures, and 2 deaths. In phthisis, the majority of the fatal cases occurred in persons who did not come to Mentone till the disease had reached a very advanced stage, and had assumed the suppurative form, kept up by fever of periodic or continued type and disturbance of the functions of digestion and nutrition, so great as to prevent the possibility of any benefit being derived from medical treatment or climate. The disease, when it has reached this advanced stage of development, soon takes the congested form, and frequently becomes complicated by sudden attacks of serious hemoptysis.

"Climate exercises a very beneficial influence in the torpid form of phthisis, even when the disease is far advanced. Here it is essential to call attention to the good which is derived from prolonged residence. In reference to this point, it is sufficient to state that the cures in the total number of phthisical patients who sojourned at Mentone during a long succession of years has been in the proportion of 14 to 36, whereas in those who have passed only one winter there I have shown that the cures were 6 in 172 cases. Caseous phthisis has given still better results, there having occurred in 5 cases 4 cures and 1 amelioration.

"The pneumonic phthisiogenic processus has been not less beneficially modified by the action of the climate; in 46 cases, there were 13 cures. As has been already stated, the climate produced an equally marked improvement upon patients affected with chronic bronchitis and chronic laryngitis. From the exceptionally favourable results now described, I have been led to formulate the following propositions:—

"1. Phthisis, when it has reached the third stage—the stage of consumption—in which the profuseness of the pulmonary suppuration produces a real pyæmia, or an essential morbid change in the digestive functions, preventing any sort of nutrition, cannot be modified by the climate. In such cases, the fatigues of the journey from home hasten the death of the patient, who dies far away from his family, by whose affectionate ministrations the bitterness of the last days of life might have been softened.

"2. The climate of Mentone is very prejudicial in cases of galloping phthisis. It hastens the downward progress of patients affected by phthisis in an essentially acute form, accompanied by continued fever, a temperature above 39 C., and a state of great nervous excitement. In cases of this description, and in those of the pneumonic phthisiogenic processus, accompanied by continued fever, the consequence of active suppuration, unless physicians wait for the termination of this acute condition before sending their patients to Mentone, they will deprive them of all hope of being cured. The same remark applies generally to cases of subacute phthisis, in which there is continued fever; but not unfrequently patients affected with this form of the disease improve, provided they reside in the parts of the town most distant from the sea.

"3. The choice of a climate for patients suffering from congestive phthisis ought to be selected with the utmost discretion. It is very important to determine the cases in which the tonic effects of climate are compatible with spitting of blood, and those in which it is injurious. We know, for example, that the limited congestions which occur in the pulmonary parenchyma at each tubercular evolution very often occasion hæmorrhages and spittings of blood, which, inasmuch as they are dependent upon the natural progress of the disease, cannot be looked upon as occurrences at all remarkable. This class of patients may reside at Mentone, provided they submit to strict hygienical rules, and avoid exposure to cold. Similar precautions must be adopted by those who suffer from secondary hæmorrhages dependent upon pulmonary ulceration and the formation of cavities; but when pulmonary hæmorrhagic engorgement forms, so to speak, the initiatory period of phthisis, giving rise to frequent hæmorrhages, sometimes of a very serious character, although there exist no well-marked organic lesion—in all such cases, I say, we must carefully avoid exciting climates, for they tend to promote congestion and to accelerate death.

"4. I have said that the climate of Mentone is remarkably useful in all cases of inactive phthisis [*toutes les phthisies torpides*]. I must remark, however, that it is necessary in cases of this description, as in those which have just been spoken of, to place the patients near the sea, or at a distance from it, according to circumstances. Thus, when tubercular evolution recurs at short intervals, it is necessary to beware of sudden changes in the atmospheric temperature which occasion injurious excitement of the system; in such cases the parts of the town most distant from the sea are preferable. On the contrary, when the scrofulous element is dominant, the better will it be for the patient that he be placed within reach of the air charged with sea-water, converted into fine spray by the winds; his system will be benefited by the direct action of this stimulating atmosphere.

"5. Patients suffering from caseous phthisis find themselves under real conditions of cure at Mentone, if the acute stage be at at end. The tonicity of the climate has an essentially resolutive and cicatrizing influence in that kind of phthisis—a fact long since verified, not only by my experience in the colony of invalid strangers, but also by my practice in the hospital.

"6. Patients in whom exists the pneumonic phthisiogenic processus are not under less favourable curative conditions at Mentone than those affected by caseous phthisis, provided acute symptoms have entirely disappeared. I may also mention that, under the influence of our climate, serous and sero-purulent pleuritic effusions are rapidly absorbed. In them the acuteness of the malady need not occasion distrust in the remedy. I have seen recoveries from extensive effusions consequent upon severe attacks of pleurisy take place by absorption without tapping, energetic derivative treatment, however, being employed.

"More than once I have likewise observed the beneficial effects of the climate in phthisis originating in herpetism, the filiation of which has been well pointed out by Dr Pidoux, at p. 165 of his *Etudes Générales et Pratiques sur la Phthisie.*

"7. Chronic bronchitis and chronic laryngitis are not less benefited by the tonic influence of the climate of Mentone. These affections, like phthisis, pass through different phases of a more or less acute character. The extent to which the malady is developed must guide the physician in the choice of the quarter of the town, and the position of the dwelling most appropriate to the state of the patient. The exposure suitable to a patient suffering from an attack of simple chronic bronchitis would certainly not be appropriate to another affected with ulcerative laryngitis, or whose malady was complicated with aphonia and paralysis of the vocal cords. All those diseases, in a word, which induce general debility, whether proceeding from diathesis or organic lesion, under the influence of the climate of Mentone, undergo beneficial modifications, often resulting in the cure of the patient.

"8. A most important point remains to be examined, viz., the duration of the sojourn which patients ought to make in the south, and the period of the year at which they ought to go to it. My statistics, which give a summary view of the different effects of the climate according to the length of the residence in the south, authorize me to say that the duration of the sojourn ought to be as long as possible. The patient who has made up his mind to leave his family and his native land to seek the cure of his phthisis in the climate of the south, ought to be thoroughly convinced that such a result is not obtainable by residence for only a few months. To encourage him in such a hope would be a breach of good faith, and would expose him to speedy disappointment. I distinctly declare that I have never seen a case of phthisis cured by a few months' residence in any health resort (*ville de saison*), but I have often seen beneficial modifications and cures obtained by the sacrifice of much time and patience in very serious cases, in which large cavities existed.

"The period at which the patient ought to change his residence is clearly indicated by the nature of the malady and the good effects obtained, when it is taken at its commencement. I need hardly say that the time of leaving for the south ought to follow close upon the manifestation of the disease. This is a point upon which both patients and their relatives make a great mistake. One would almost believe that they wish to deceive themselves both as to the nature of the disease and the serious consequences to which it may lead. I have almost never seen a phthisical patient who has not assured me that his disease was only a neglected catarrh. Patients lulling themselves by this illusion cannot decide to leave business, family, and relations to submit to the regimen of a health resort (*ville de saison*). When waiting, they take care of themselves badly; they neglect precautions which are indispensably necessary to arrest the progress of the disease, and do not consent to leave home till its issue has become doubtful. If patients were convinced of the truth of the view which I have now expressed, cures of phthisis would be much more frequent. Change of climate ought to be considered as the most powerful remedy for the cure of phthisis, and not as the *ultima ratio* of treatment."—Pp. 118–128.

The length of the passage which we have now translated is in itself an expression of our high opinion of the value of Dr Farina's work. It is evidently the outcome, and the well-digested experience, of an honest, able, practical physician. Sending delicate persons, and patients in all stages and degrees of phthisis, to winter in the south of France has now become too much a matter of fashion. Patients in shoals go every year to the Riviera on their own fancy, or upon very imperfect medical advice. Many go who ought not to go, and many go at the wrong time and to the wrong place. We should like to see this subject faithfully treated for the benefit of the public, as well as for the guidance of the profession, by some physician who knows thoroughly the medical history of a fair number of pulmonary invalids who have sought health during the last ten or twenty years at the Riviera winter stations.

Traité de Climatologie Médicale, comprenant la Météorologie Médicale et l'Etude des Influences Physiologiques, Pathologiques, Prophylactiques, et Thérapeutiques du Climat sur la Santé. Par Le Dr H. C. LOMBARD (de Genève). Tome III. Pp. 771. Paris: 1879.

THIS, the third volume of Dr Lombard's excellent work on Medical Climatology, has just appeared. It comprises copious and well-arranged accounts of the climates of Switzerland, Italy, Spain, Portugal, eastern provinces of Austro-Hungary, Turkey in Europe, Roumania, Greece, Poland, North and South America, Mexico, Central America, West Indies, Brazil, Egypt, Algeria, Morocco, Eastern, Western, and Southern Africa, Cape of Good Hope, Abyssinia, Madagascar, etc. Each place is treated of in respect to its geography, climatology, ethnography, demography, and pathology. Much valuable matter is given regarding the geographical distribution of diseases. In these days of restlessness when travelling in search of health has become far more in vogue than it ever was before, Dr Lombard's work will be found very useful for reference by those physicians who are consulted by the large, often ill-advised, and ever-increasing class of patients now referred to. When the entire work is before us, we may say more regarding it.

The Journal of Anatomy and Physiology, Normal and Pathological. Vol. XIII. Part I.: October 1878.

THE first number of a fresh volume of this Journal appears with some changes on its front page. The terms Normal and Pathological have been added to its title, and the name of Dr Creighton of Cambridge to that of its conductors. The first article is by Dr D. J. Cunningham on "The Intrinsic Muscles of the Mammalian Foot." The writer gives a description of his dissections of these muscles in the Cuscus and Thylacine, and endeavours to show, by a comparison of their arrangement in numerous mammals, that the typical plan is for these muscles to be deposited in three layers:—

(1.) A plantar layer of adductors.

(2.) An intermediate layer of flexores breves.

(3.) A dorsal layer of abductors, deviations from the typical arrangement occurring either by suppression or fusion of certain elements of the different layers.

Dr Cunningham supports the interesting view of Dr Ruge of Heidelberg, that the relation of the intrinsic muscles of the foot to the metatarsus in many animals corresponds to transitory conditions in the foot of the human embryo.

In a paper on "The Growth of Bone from the Articular Cartilages," Professor Humphry opposes the opinion of Dr Ogston, who, in a recent number of this Journal, asserted that "articular cartilage is as valuable and necessary in forming and maintaining the structure and shape of bone as periosteum is always admitted to be." Professor Humphry maintains, as we believe correctly, that their non-vascularity, and contiguity with a vascular surface on one side only, render them ill-adapted for an active function of any kind. He also points out that an examination of the epiphysial line of cartilage shows that cell-growth and ossification proceed much more rapidly on the surface of the cartilage next the shaft than on that next the epiphyses. The addition of the term Pathological is justified by the contents of the Journal, as it contains a paper by Mr Edward Owen on "The Anatomy of Genu Valgum," in which the primary cause of that deformity is held to be a relaxation of the internal lateral ligament of the knee-joint, the increased length of the internal condyle being secondary to this; a description of "A case of Hemiplegia from an injury, involving Loss of Substance in the Motor Region of the Convolutions," by Dr Joseph Coats; and a note by Mr Henry H. Slater "On a Tumour found in the Ovary of the Common Fowl." The Journal contains several other articles, bringing this part fully up to the high scientific standard which his publication has attained.

Twentieth Annual Report of the General Board of Commissioners in Lunacy for Scotland. Edinburgh: 1878.

THOUGH, perhaps, not so much read as it ought to be in the quarter to which it is ostensibly directed, viz., both Houses of Parliament, the Scottish Lunacy Report is appreciated by those who take an interest in such questions as the prevalence of insanity and the provisions for its care and relief.

The Report is shorter than it used to be, a decided improvement, and, owing to a good index of contents and marginal rubric, one can find out the information he desires with very little trouble.

The number of insane persons in Scotland reported by the Lunacy Board from 1st January 1878, was 1569 persons maintained from private sources, 7473 by parochial rates, and 55 at the expense of the State. The whole increase of registered lunatics during 1877 is made up of 234 pauper patients. No change occurred in the number of private patients.

The broader and more important facts which these figures disclose are as follows:—(1.) There has been during the past year no increase of the number of private lunatics; (2.) There has been a considerable increase of the number of pauper lunatics; (3.) The population of private asylums has not increased in an appreciable degree; (4.) No pauper lunatic is now provided for in a private asylum; (5.) There has been no indication of an increasing tendency to place patients in the lunatic wards of poorhouses; and, (6.) There has been a falling off in the number of pauper patients provided for in private dwellings, but an increase of the number of private patients provided for in that manner.

The Board of Lunacy seem to have arrived at the conclusion that the increase of lunacy is only apparent. They think that the increase in private patients does not keep up with the growth of the general population, and when we bear in mind the increased readiness to put patients into asylums, the figures rather indicate a decrease. As for the increase in pauper lunatics, they put it down as mainly owing to the desire of the parochial boards to partake in the relief of local taxation from the grant of four shillings a week thoughtlessly bestowed by the Chancellor of the Exchequer.

"During late years," the Commissioners remark, "we have frequently had occasion to inquire into the necessity for placing persons on the roll of lunatics whose mental unsoundness was slight, and who had previously been ordinary paupers. From one parish, for instance, we received on one day intimations of five new cases of pauper lunacy. The population of that parish is only 2460, and the greatest number of lunatics ever before on its poor roll was 6. The five lunatics referred to had long been ordinary paupers, and our investigations showed that they were all of weak or unsound mind; but they, at the same time, left us in little doubt that these persons would have continued to be classed as ordinary paupers, if declaring them to be lunatics had not become a means of obtaining a contribution from Government towards their maintenance. It is a fact which should not be lost sight of, that certificates of lunacy are seldom granted without a consideration of the social as well as the medical circumstances of each patient. In many cases the medical circumstances permit of either one view or the other being taken, and the consideration of the social circumstances then settles the question. From that consideration, the source of the money to be expended on the patient cannot reasonably be expected to be absent." Very neatly expressed indeed.

The principal difficulty which the Lunacy Board has to deal with is the disposal of the increasing number of the weak-minded, imbecile, and harmless lunatic class, for whom an asylum is too strict and a private house too loose. Dr Sibbald, who, as deputy commissioner, had much to do with this class, "draws attention to the growing tendency to place upon the list of pauper lunatics persons who labour under the less pronounced forms of lunacy." For these the boarding out system was warmly recommended in past Reports of the Lunacy Board. There were difficulties as regards imbecile young women of erotic tendencies. Dr Sibbald thinks that "to shut up all women who exhibit the milder forms of imbecility would be clearly impracticable, though it is among such patients that sexual accidents most frequently occur;" though the control over such persons in private dwellings "may be in some respects imperfect." "In a large proportion," Dr Sibbald goes on, "the supervision is found to be practically sufficient, and it would not be justifiable to confine all such persons in asylums, on account of the comparatively exceptional cases of failure, especially," the Report goes on, as, Dr Sibbald might have added, "even in asylums the control and supervision exercised over them will often prove insufficient. Very likely; all human arrangements are imperfect; but everything is comparative in such matters, and it would be well to know which works best. Even the female side of a pauper asylum is not quite a nunnery; but if new comers become more depraved than before under its influence, at any rate the male sex is kept away. The risk of "sexual accidents" with imbecile or demented females, boarded out in a population where such accidents amongst the sane "are not regarded as of much importance." The amount of care and attention which could be procured for a meagre board in private dwellings had been hitherto attended with results which were "not disappointing;" "but during last year," we are told, "it happened otherwise in regard to two pauper patients placed under private care in the villages of Star and Kennoway." As we were never led away by the over great laudation which the boarding out system received in previous Reports, we neither share in the disappointment, nor feel inclined to make much of a failure here and there. On the whole we wonder that such accidents are not commoner. Very likely one reason is that imbecile and demented females are not often of a prolific tendency. From a petition of the inhabitants of Kennoway, which has found its way into print, it seems that the collecting of weak-minded females in one village may become a danger to public decency and morality. It is a difficult case to meet, and the success of any plan will never justify enthusiasm about it. We suppose that the Deputy Commissioners look upon the boarded out lunatics much in the same light as a superintendent does his asylum, and allude to the failures in their case in the same guarded and apologetic style.

The Commissioners comment upon the difficulty of disposing of adult imbeciles discharged from institutions for idiots, such as Larbert and Baldovan. Some people, we learn, think a separate asylum for such harmless creatures very desirable, but, to repeat the remark of the Commissioners, "it is not shown how such an establishment can be called into existence." If there is to be any improvement in the treatment of the insane, we suspect it must consist in the separation of curable and acute cases from the dreary collection of the demented, idiotic, and paralytic which meet the eye in an ordinary asylum.

In the meantime the Commissioners call us to admire the demolition of the walls of airing courts, which under their urgent recommendations is going on in the district and pauper asylums. From the accounts they give, it seems the number of escapes are no greater than when most of the inmates of the asylums were pent up in these enclosures.

On the whole the Report is framed in a judicious spirit, and in a way which skilfully exhibits the numerous facts and valuable statistics which it gives to the public.

THE BOSTON SOCIETY FOR MEDICAL OBSERVATION

Part Third.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION LVIII.—MEETING III.

Tuesday, 14th January 1879.—Dr Wilson *in the Chair.*

EXHIBITION OF PATIENTS.

I. *Dr Allan Jamieson* showed a young man suffering from marked ALOPECIA AREATA. In October 1877 several small patches had appeared and coalesced. On the right side of the moustache and on the chin there were patches of light-coloured hair. The baldness had increased gradually to its present extensive state. With the patient's consent, he had removed a small piece of skin for microscopical examination. No morbid changes, however, could be detected in the sebaceous glands or hair follicles, nor in the subcutaneous areolar tissue and corium, as had been alleged by Mitchelson. Careful examination of the hairs failed to discover any spores of Microsporon Audouinii. Those pulled out came away easily, and had the inner root-sheath covering the lower third of the hair. Rindfleisch supposed that the falling-out of the hair was due to fatty degeneration of the root-sheaths. He had found little evidence of such fatty degeneration. On scraping some scales off, a few spores were found, but not of any significance. These observations were of importance, as Balmanno Squire, in the recently published fifth volume of *Reynolds' System*, had asserted that alopecia areata was always a parasitic disease. He believed it was really due to some trophic nerve change. One peculiar feature in it was, that he had only seen it in dark-haired people.

II. *Mr Joseph Bell* then read NOTES OF SURGICAL CASES—INJURIES AND OPERATIONS, which appears at page 789 of this Journal.

Dr Wilson thought the Society greatly indebted to Mr Bell for his valuable paper.

Dr John Duncan was afraid that such a paper did not lend itself much to discussion. So much ground had been gone over, and the cases were so many and rare, that criticism was difficult. Had Mr Bell spread his cases over several meetings, they would then have been fully considered. He supposed that all one could do under the circumstances would be to make some observations on one or two points. The first group of cases was that of double amputation. These were rare enough to be noted, and recoveries were still rarer. It recalled to his recollection a case of double amputation below the knee—the seat of election—for frost bite. One point of interest in connexion with Sampson Gamgee's recent paper was, that in one limb the antiseptics were unsuccessful, while in the other leg they succeeded admirably. Both healed in the same time—three weeks—but the verdict was strongly in favour of the antiseptic limb so far as freedom of handling, absence of pain, and suppuration. Such a case was much more convincing as to the value of antiseptics than any of Mr Gamgee's. He thoroughly supported Mr Bell's own admission that in one case the rapid getting up was hardly justifiable, inasmuch as it disturbed the rest of the limb so much needed. A second exceedingly interesting group of cases was that of dislocation. In regard to the knee, he could confirm what Mr Bell had said as to the difficulty of reduction. In a case of a miner with dislocation of the knee backwards, he was unable to reduce it, although he had the help of several miners in addition to his own strength. He therefore put it up in extension, but the patient grew anxious, and he put him under Mr Spence's care, as he had then no wards of his own. The extension was continued for two days, when Mr Spence operated for the reduction. Nothing, however, was found in the joint to prevent its being reduced, so that the difficulty was caused by the resistance of the ligaments and tendons. Extension was therefore the best thing in such cases. He felt he had already prolonged his remarks too much. He had listened to the paper with the greatest interest.

Dr Finlay had listened with great pleasure to Mr Bell's paper. In such cases of smash as Mr Bell had related, the first question to settle was whether or not they should amputate? Rapidity in the performance of the amputation was undoubtedly good. While listening to the account of the case of axillary aneurism, it struck him that the catgut ligature was not so trustworthy as the hempen one.

Mr D. J. Hamilton believed that such a failure with catgut as Mr Bell had related was unusual. Several years ago he had seen very many cases where catgut was employed for ligature, and had never known it fail. He wished to know from Mr Bell if, in his case, the ligature had dissolved or given way. In a recent case of Mr Chiene's, where the patient died from some cause apart from the amputation, the flaps had united. On dissecting out the femoral artery, the catgut ligature was found reduced to about one-third of its original thickness, and was surrounded with young cicatricial tissue. The clot was small, tapering, and did not occlude the opening. If, as was now clearly established, occlusion of the artery was caused by a growth of the *intima*, and not by organization of clot, then the catgut ligature may not have irritated the intima enough. It would be interesting if Mr Bell could tell them how the secondary hæmorrhage had taken place.

Mr Bell said that, owing to the anxiety of the case, there was not much time for observation. He thought, however, that the ligature had relaxed. Dr Hamilton would probably remember that, in the case of the old man on whom they had a post-mortem, there was a clot in the axillary, 3½ inches long, and as fine as a horse-hair. He could bear out fully Dr Duncan's remarks on the ease with which antiseptic stumps could be handled. At present he had in his ward a case of primary amputation, where the patient from the first lifted his own stump. He quite agreed with Dr Duncan as to the non-advisability of patients getting up too soon. In this case, however, there were special circumstances. When the patient came in, she was very much depressed, and felt convinced she would die. As the best means of proving to her that she would not, she was got out of bed and into the open air much earlier than usual.

III. *Dr Duncan* then read a paper on PAIN AS A SYMPTOM OF FRACTURE, which will appear in a future number of this Journal.

The President was sure the Society was much indebted to Dr Duncan for his philosophical paper.

Mr Bell thought the Society would be at one in agreeing that in Dr Duncan's paper there was great subject for thought. Dr Duncan's papers, indeed, were always characterized by careful thought expressed in accurate language. Nine out of ten cases of Pott's fracture, say, were easily diagnosed. The tenth, however, was the difficult one; and in it the particular tenderness was the guide. Fractures of the hip were often intensely puzzling, as he had experienced in the case of a patient of thirty-nine, with intracapsular fracture of the thigh, and very little shortening. They should remember that absence of pain was a misfortune. He had seen this well illustrated in the case of a gentleman in the country, whom he had been telegraphed for in consultation. This patient had broken his tibia, and yet walked home; so that, on his arrival, the bone was projecting through the skin, and covered with gravel. The gentleman was by no means drunk, as his friends asserted that what he had really taken was not much for anyone, and nothing for him. He ultimately died. Dr Duncan's paper was a valuable contribution to surgical literature.

Dr A. G. Miller was interested in Dr Duncan's paper, more especially as he (Dr D.) had previously mentioned some of his results to him, so that he had recently been on the outlook for them. One point he wished to ask Dr Duncan was in regard to the pain. It was generally said to be due to the movements of the fractured ends, but it often existed where there was no movement, as in impacted fracture. In regard to Dr Duncan's observation on Pott's fracture, as to pain felt when the lower end of the fibula was pressed, he had seen a case of bruise of the ankle where the peroneal region and whole ankle were so swollen and painful as to be misleading on this point.

Dr Duncan thanked the Society for the reception given to his paper. In regard to Dr Miller's remarks on a case of injury to the ankle-joint, he wished to point out that the *subcutaneous* part of the fibula should be pressed in using the pain test for Pott's fracture. The peroneal tendons were behind this region, so that injury of these could not mislead.

OBSTETRICAL SOCIETY OF EDINBURGH.

SESSION XXXVIII.—MEETING III.

Wednesday, 11th December 1878.—Dr WILSON, *President, in the Chair.*

I. *Dr Macdonald* exhibited a CAST OF THE HEAD OF A MATURE FŒTUS from a case which had been placed under his charge by Dr Macnair of Falkirk. The pelvis was much contracted in the antero-posterior diameter, the conjugate at the brim measuring not more than 2¼ inches. The patient had previously had four children, the first being delivered by craniotomy; in the second, premature labour was induced; the third and fourth were delivered by turning. All the children were lost. On the present occasion the patient was in the middle of the ninth month, before she came under Dr Macdonald's care, so that the opportunity to attempt premature labour was past. Turning was adopted, but it was impossible to drag the head through the brim, until the skull was perforated, and a considerable amount of brain matter had escaped. The deep depression in the cast indicated the indentation made upon the child's skull by the pressure of the sacral promontory. The fœtus was a large-sized male.

II. *Dr Macdonald* also exhibited a FEMALE FŒTUS affected with general dropsy, in whose case there had occurred also considerable effusion into the abdominal cavity. Hydramnios was present also to a large extent.

III. *Dr Hamilton* of Falkirk made a few SUPPLEMENTARY REMARKS to those of last meeting regarding his method of using the FORCEPS, and thereafter gave a demonstration of the plan he always adopted in the treatment of asphyxia neonatorum, which consisted essentially in placing the fœtus in the extended position on its back, and using alternate compression of the chest and direct insufflation by the mouth of the operator.

Dr Charles Bell regretted being absent from the last meeting of the Society, and in consequence being prevented from hearing Dr Hamilton's paper; but his regret is considerably diminished by the remarks just made by Dr Hamilton, which have surprised him exceedingly, as it was the first time he ever heard anyone say that "he did not care for nature," and that he disregarded the formation of the pelvis, as he considered it was immaterial whether the face of the child turned into the hollow of the sacrum or not; for both were equally easy in delivering the head with the forceps. In short, he stated, in reply to Dr Bell's objections to his mode of delivering with the forceps, "I bring the long measurement of the head through the short measurement of the pelvis." In Dr Bell's opinion this is a most objectionable practice, as he considers it impossible to do so without injuring the fœtal head, as well as the soft parts of the mother. Dr Hamilton's success was apparently most marvellous; but it is to be hoped that his mode of using the forceps will not form a precedent for others to follow, and that he will see the propriety of adopting the more judicious, and generally approved mode of practice.

IV. *Dr Robert Bell* of Glasgow gave a demonstration of the use of TARNIER'S FORCEPS, illustrating the exact method of this application on the PHANTOM.

V. *Mr Lindsay Porteous* of Kirkcaldy communicated, through *Dr James Young*, a note on a NEW VARIETY OF FORCEPS the blades of which were covered with vulcanite. He remarked as follows:—

Forceps of various kinds have been used more or less since 1647, and probably prior to that date. It is pretty well proved now that Dr Paul Chamberlain was the inventor, but whether or not, the forceps has proved a boon and blessing to many.

In a table of statistics given by Dr Churchill, we find that out of 985,446 cases of labour, attended by 67 physicians, the forceps was used 8561 times, or 1 in 115 cases. Those cases were attended by British, French, Italian, and German physicians in the following proportions:—The British used forceps in the proportion of 1 in 171 cases; French and Italians, 1 in 140; Germans, 1 in 106. By this we see how very seldom the British used the forceps, although the statistics are so recent as 1858. In another table he gives the results to mother and child, as follows:—Cases of British practitioners, 1 in 29 mothers lost; cases of French and German practitioners, 1 in 34 mothers lost; of the children, only statistics of British cases are given, viz., 1 in 5 lost. These facts are anything but encouraging to those commencing midwifery practice, but I here quote them to show how very seldom the instrument was used, and how alarmingly great the mortality.

The cause of this great mortality seems to be that there was a want of faith in the operation, causing the accoucheur to delay the application until the mother was too fatigued, or the child had suffered from too long pressure, or that the cases were more suitable for craniotomy or other formidable operation.

From my own experience, I think that the instrument is chiefly useful as a "tractor," although doubtless at times it does good as a compressor, and if applied carefully and *in time*, there is little or no danger to mother or child. The pain to the mother is not much greater, if as great, as a strong labour pain; and by its use, fatigue is spared to the mother and prolonged pressure to the child. When properly applied it matters little whether traction is made during a pain or not; as it seems to me that the act of drawing *causes* a pain to come. In many parts of the country the forceps is much objected to; and where I practise there is or rather *was*, a strong prejudice against its use. But now I invariably find that when a patient has once felt the benefit of it, she asks for it in her next confinement.

During the last twenty months I have attended 199 confinements, and have used forceps in 50 cases, or about 25 per cent. The percentage would have been larger had it not been that prior to my coming here, the forceps was considered an instrument to be used only in *extreme* cases; and consequently patients dreaded the very idea of its use. Of these cases I have not lost one mother nor one child. It is from my success in these cases, and from the great benefit derived, that I have now ventured to put in a plea for the forceps.

I have found that patients have a great objection to cold steel; and even the metallic ring seems to strike awe into them. To obviate these objections, I have had made a forceps with Aveling's blades and Simpson's handles, slightly altered, and covered with vulcanite. For it I claim that it is easily heated (by friction), easily kept clean, easily applied, has no metallic ring, and no appearance of steel.

Although it is generally recommended to tell the patient you intend using instruments, I do not always do so, as I think it is not always advisable, and I find that I can often pass the "vulcanized forceps" and deliver the child, the patient being none the wiser, until told afterwards. I think, that when it is known to the accoucheur that the patient has a dread of instruments, it is far more humane to give her the aid and conceal the hated benefactor.

The above remarks I have ventured to address to you, in the hope of this useful instrument being more generally resorted to than at present it seems to be.

VI. *Dr Gordon* then read a short paper on the advantage of SINGLE CURVED FORCEPS.

VII. *Dr Charles Bell* exhibited a new kind of LONG STRAIGHT FORCEPS, which he had found most useful in practice.

Discussion then took place on the various papers.

Dr M'Raild of Greenock stated that he had an extensive experience of the use of the forceps. In regard to the position of the head in ordinary cases, he almost never found it presenting in the transverse diameter as described by Dr Hamilton, and he did not see how it could be delivered in this position. He had always made use and highly approved of the ordinary curved forceps. In his experience the head lay invariably in one or other of the oblique diameters.

Dr Keiller had witnessed with interest Dr Bell's demonstration on Tarnier's forceps. This was the first time he had seen the instrument.

It was evident that its chief advantage was the avoidance of pressure downwards and forwards towards the pubes. He thought, however, that by careful manipulation this injurious pressure might be to a great extent avoided, even in the ordinary forceps. His practice was to attain this by using the hand in various ways, as by careful pressure from above, and also on the anterior aspect of the forceps, pressing them backwards, and at the same time not employing too powerful traction. Another method he sometimes adopted was the application of a hook either behind the lock or in one of the eyes of the blade; in this way you obtained the very force and a power of traction exactly in the same direction as demonstrated in Tarnier's forceps. He thought, in those various ways, and always bearing in mind the natural mechanism of the expulsion of the child, we ought to be able to overcome most difficulties. He would like further to say, that he considered Tarnier's lock very objectionable. As to the long straight forceps of Dr Hamilton and others, he was entirely opposed to their use as long forceps. Long forceps should always be applied with reference to the pelvis, short ones in relation to the fœtal head. In the earlier years of his practice he had used long straight forceps, and he did not know how much mischief he had done with them. He had often, in fact, failed altogether to deliver with them. One advantage of straight, over curved forceps, he admitted, was the facility of rotation with them. He had used long curved forceps as short ones and rotated with them. He commended Simpson's instrument as in every way admirable. In rotating with them we were always able to judge of the position of the instrument by roughness on the anterior face of the handles, which was a great advantage. One great point in delivery with the forceps was to keep the head well flexed. As to Dr Hamilton's cases, we all know his wonderful success—700 cases without a death. He thought this good result was partly due to the fact that most of the cases were well advanced, and delivery, therefore, easily effected. In answer to a question by Dr Keiller, Dr Hamilton now stated his belief that he had saved the lives of one-third of the children in his forceps cases. Although most obstetricians used the forceps now with great frequency, he thought we should be very cautious in advising students to a too frequent use of the instrument, such as 1 in 7 cases.

Dr Moir thought Tarnier's forceps objectionable in many respects, more especially the fastening of the handles by a screw, which must inevitably be injurious to the child. As to rupturing the perineum in using forceps, he did not remember having done it but in one case, where the pelvis was somewhat narrowed at the anterior outlet by approximation of the pubic rami, thereby throwing the head back on the perineum. He then exhibited to the Society a number of forceps of various forms making observations on several of them.

Dr Keiller expressed his astonishment at the unfrequency of perineal rupture in Dr Moir's practice.

Dr Macdonald stated that as he listened to Dr Hamilton's paper he could not help feeling that a great part of his observations, so far as Edinburgh was concerned, were relevant only to a practice and to instruments that had long since been abandoned. Dr Hamilton seemed to forget that the practice and the forceps of the time to which he referred had in the intervening period been greatly changed. He could not help also feeling, as Dr Keiller expressed himself, that a considerable proportion of Dr Hamilton's cases must have been easy ones. Still, seeing they were so numerous and spread over so long a period of practice, a certain proportion of them must have been difficult. So far as he could make out, it appeared that the main peculiarity of Dr Hamilton's practice was that he used for the delivery of short forceps cases a straight instrument of much greater strength and length than the ordinary short forceps. The position of the head at the time when Dr Hamilton applied his instruments showed that most, if not all, of his cases were examples of short forceps cases. In addition to this peculiarity of the construction of his instrument, Dr Hamilton's method seemed further peculiar in that he applied the instruments to the sides of the head so as to grasp it in the transverse diameter. It was well known that in this direction the fœtal head would admit with safety considerably greater compression than when the blades were applied at the ends of the oblique or of the antero-posterior diameters of the head, as the ordinary instruments were found to grasp it. But, on behalf of scientific midwifery, he must protest against Dr Hamilton's statements that the pelvis was essentially nothing more than a tube bent antero-posteriorly, and that it was unimportant whether or not the head rotated during delivery by instruments. Why, he should like to ask, if such was the case, was it invariably observed that in every normal delivery, when the vertex presented, the occiput turned forwards under the symphysis? Nature's method was doubtless the easiest possible, and in so far as Dr Hamilton's opposed or did not favour the rotation movement, in that far it was unscientific and objectionable. He had always found the ordinary Simpson's double-curved forceps equal to any case for which forceps were applicable. It was strong; by the length of its blades it permitted the head to be moulded and elongated in the mento-occipital diameter whilst in its grasp, and it further usually allowed rotation to take place without injury to the soft parts. He was in the habit of using this instrument both for the long and short operation, and it would be difficult to convince him that it could be easily improved upon or advantageously substituted by another instrument. He was astonished to hear Dr Hamilton speak of the frequency of serious injury to the head in forceps cases. He was in the habit of using forceps largely,—his friends even hinting sometimes that if he erred it was too frequent employment of forceps,—and yet it was the rarest thing possible for him to be able to detect even a slight abrasion of the head. Anything approaching deep incisions or serious injuries he had never seen, and he could not imagine how they should be found, except great carelessness was practised, or the forceps employed in attempting delivery in cases which were entirely unsuitable for their application. He also heard the statements regarding the absence of perineal and vaginal tears made by Drs Hamilton and Moir with a mixture of wonder and incredulity. At an early part of his own practice he never met with vaginal or perineal tears. But within the last seven or eight years he never effected artificial delivery in a severe primiparous case that he did not find both present to a considerable amount. He could not charge himself with operating with any less care, but thought the reverse was the truth. At one time he never examined for such lesions, whilst now he subjected the vagina and perineum to a careful scrutiny in every case.

As to the demonstration of Tarnier's forceps, he was sure every member of the Society was exceedingly much indebted to Dr Bell for coming twice from Glasgow to exhibit them. He regretted much that for want of time the demonstration was so brief, as, from what they saw in Paris and London, the phantom employed is peculiarly well adapted to exhibit the advantages of these forceps. He could himself vouch for its extreme adaptability to the ordinary forceps and to other obstetrical operations. The essential advantage of this instrument of Tarnier seems to depend upon the great breadth of the blades and the curve of the rigid tractor. By these means traction in the chord of the rigid tractor can be thrown so far back without risking the perineal tissues that the operator may pull in the axis of the inlet, whilst the head is still at the brim. By that means the pubic component of the operator's force, which always appears in the form of injurious pressure against the pubis, when the operator pulls so as to throw the axis of his instrument in front of the axis of the brim, is made to vanish. It must also be allowed that, even with the best double-curved instruments in ordinary use, it is nearly, if not quite, impossible to exert traction in the exact axis of the brim when the head is entering the inlet. Therefore, he believed some such instrument is a desideratum for severe long forceps cases. The instrument of Tarnier, however, is too complicated, bulky, and clumsy to be expected to pass into general use. If Dr Bell should succeed in so modifying its size and shape as to make it more portable and more easily applied, while conserving its special advantages, he will supply a felt want and largely benefit the profession.

Professor Simpson would not detain the Society at such a late hour with any lengthened remarks. He thought Dr Hamilton's paper interesting in this respect, that it showed how an acute and active mind had worked out to its own gratification the problem how frequently and with what instrument labour could be most safely terminated. He did not think Dr Hamilton's conclusions could be safely used as guides for the profession generally, although he had done most valuable service in demonstrating the benefit to be derived from the use of the forceps. Dr Hamilton's papers had contributed largely to bring about the entire revolution which had taken place with regard to the frequency of using the forceps. He agreed with Dr Keiller and other teachers in thinking that we should be cautious in advising students and young practitioners to use the forceps too frequently. As to the form of instrument, he very much preferred, for almost all cases, the long curved Edinburgh forceps, which were now in such general favour even on the Continent. Twenty years ago he had taken this instrument to Vienna, and shown it to Professor Braun, who at once recognised its value, and showed it to his class next day as the best instrument he had ever seen for fulfilling all the requirements of a pair of forceps. He (Dr Simpson) had heard from time to time that it was the instrument now in ordinary use in the great Vienna lying-in hospital. As to Tarnier's forceps, although good in principle, he thought them cumbrous, and he had an impression, notwithstanding the observations of Dr Bell as to the safety of compressing the head with the screw, that the use of the screw was objectionable. The principle of the Tarnier traction was new; and if it could be applied to our ordinary forceps many cases of difficult extraction at the brim would be facilitated. Like Dr Keiller, in using the ordinary curved forceps, he was in the habit of pressing backwards to obviate pressure forwards on the pubis, and also in some cases using a hook or cord for the same purpose. Straight forceps, he thought, could only be used with advantage when the head was well down; high up they could not be successfully applied as was so readily done with curved ones.

Dr Charles Bell thought Tarnier's forceps a very clumsy and complicated instrument, which was extremely liable to injure the maternal soft parts if any rotation were attempted, and it seemed to possess no advantage over straight forceps. In regard to the application of the forceps generally, they should not be used so long as the head was advancing, and the general condition of the patient satisfactory. As to the form of forceps he used, he confessed a partiality to the long straight ones. One of the disadvantages of Simpson's was the shoulders, as in using it the transverse knobs prevented the operator from using sufficient compressing power, and the instrument was apt to slip. Traction must always be in a straight line, and therefore could be more effectually accomplished by straight than by curved instruments, the head making the rotation readily as delivery was effected.

Dr Ritchie believed in long curved in preference to straight forceps, and he asked Dr Hamilton and Dr Bell whether any injury had been done to the bladder on applying the instrument in the antero-posterior diameter?

Dr Hamilton replied in the negative. The forceps he used, he said, was three-quarters of an inch longer than Simpson's, and he stated that he rarely required to apply these at the brim—not more, he thought, than in two to four per cent. of his forceps cases. He generally found that the head entered the pelvis transversely, and when an ear could be felt at or near the symphysis, delivery could usually be effected easily, no rotation in a large proportion of cases being necessary. In extraction he used traction first, and then if necessary traction and leverage combined, the forceps and head of the child being the lever, and the parts of the mother the fulcrum. In no case had he found this mode of delivery injure, even in a slight degree, either mother or child. He greatly praised Ziegler's lock as being the most certain and secure of all. In regard to the injury inflicted on mother and child by delay, and the double curved forceps, he mentioned, as to the former, a case he had been called to within the last few days, where the woman nearly lost her life, from obstruction of the bowels caused by stricture of the rectum of some thirty years' standing, after difficult labour. On examination, the vagina and rectum were found completely laid into one, and the stricture could be felt posteriorly like a second os uteri. Dr Hamilton repeated, that in his whole practice he had never had a case in which the *skin* of the perinæum was injured, and this no doubt arose from his constant attention to Professor Hamilton's rule as to supporting the perinæum at delivery. Regarding injuries to the child from the double curved forceps, Dr Hamilton referred to very shocking cases which had been mentioned lately in the *British Medical Journal*, September 28, 1878, page 59, and in the *London Obstetrical Journal* for November 1878. Regarding Dr Macdonald's remarks as to the female pelvis, Dr Hamilton said that his mode of delivery showed it to be a curved tube always, but not *necessarily* a curved rifled one; in certain of his cases, the head did not rotate till delivery.

Dr Bell, in reply, thanked the Society for the manner he has been received. He considered the lock and screws in Tarnier's forceps objectionable, but hoped ere long they would be improved upon. The ordinary long curved forceps, he thought, could not be easily used in high cases without injuring either the soft parts in the neighbourhood of the pubis or the perineum. As to the screw, he considered it was not intended to use it as a compressor, but merely to fix the blades after application. He could not understand how Dr Moir had so seldom met with perineal rupture in his practice. As to Dr Charles Bell's objection to Tarnier's instrument being inapplicable to the performance of rotation, he thought such a movement could most easily be effected with them, and without injury to the soft parts. In regard to Dr Hamilton's practice, he did not think that any obstetrician could improve on nature's method.

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION

Part Fourth.

PERISCOPE.

MONTHLY RETROSPECT OF GYNÆCOLOGY.

By Angus Macdonald, M.D.

A New Method of Reposition of Persistent Retroflexion of the Uterus.—Schultze suggests this plan in No. 3 of the *Centralblatt für Gynäkologie* of this year. The method consists in dilating with tangle-tent the cervix uteri, observing in doing so the extreme precautions already reported in this *Journal*, p. 182, vol. xxiv. part i. as practised by him. The cervix being dilated, Schultze introduces the middle finger of one hand into the cavity of the uterus, and sets the organ erect, exploring its surface thoroughly by means of the other hand on the abdomen, while the uterus is steadied by the internal finger. Having thus replaced the organ in its normal position, he fixes it with his vaginal pessary. This practice in 400 cases during last year, in which it was performed by Schultze or some of his assistants, did not, he states, produce a single attack of parametritis, increase the temperature over 100°·2, or indeed occasion any abnormal reaction whatever. His experience also leads him to expect that the reposition thus conducted will prove permanent.

The Cyclical Theory of Menstruation is the title of an elaborate paper by Dr Goodman, of Louisville, in the October number of the *American Journal of Obstetrics*. The conclusions arrived at are formulated by the author in the following propositions near the end of the paper and are—1st, That menstruation is a result of the general condition of the vascular system, the local manifestations occurring, as a rule, in the generative organs, from the fact that they are specially adapted anatomically and histologically for their display. 2d, That the general disturbance of the vascular system is of a nature to elevate the blood pressure throughout the entire organism, and arises from a contraction of the muscular coats of the arteries and veins. 3d, That, in all probability, when the tension of the vascular system reaches its greatest degree, activity is imparted to certain muscular fibres, which, from their collocation and only possible function, must be regarded as accessory to the vaso-motor muscles, and through their co-operation the local phenomena are intensified.

The author then goes on to observe that, according to the view of the proximate cause of menstruation, the periodicity of the function is explained by reference to the intermittent action of involuntary muscular fibres, the energy of this kind of muscular tissue being always exerted paroxysmally, periods of activity alternating with states of rest. The muscular changes, the author believes, act in subordination to nervous controlling influences. Thus he says, "It is to the nervous centres of this class, located in the walls of the bloodvessels, which, it is presumable, partake of the puberal development that affects the muscular tissue with which they are intimately associated, that I would ascribe the dynamic cause of the periodic activity of the vaso-motor muscles. As elaborators of nervous force they are independent agents; but in the exercise of this force they are doubtless subject to disturbing influences, originating in other sympathetic ganglia, and in the cerebro-spinal centres on the same principle, but not to the same extent as is known to be the case with the intermuscular ganglia of the heart. What the process is by which their action is rendered intermittent I will not discuss. It may consist of a recurring series of physiological acts, or it may be simply an alternation of exhaustion and recuperation of nervous energy. In either case there is a repetition of similar events in regular order of succession from first to last, and then returning to the first. Hence I have entitled this exposition of the cause of various peculiar attributes, THE CYCLICAL THEORY OF MENSTRUATION."

THE RELATION OF MENISCHESIS (RETARDED APPEARANCE OF THE MENSES) TO PELVIC CONTRACTION is the subject of a curious paper in the same journal by Dr Morse, of Albany, in which it is argued that a woman who does not menstruate till after the age of twenty does not, as a rule, have a normal labour. The author maintains that this result is due to the fact that the pelvis of such woman retains the male type permanently, and does not undergo the important changes by which the male-shaped pelvis of the girl is transformed into the broad and roomy pelvis of the well-formed woman. The paper is illustrated by the record of one case.

FRACTURE OF THE SKULL IN A CASE OF LABOUR WITH A NORMAL PELVIS, OCCASIONED BY THE ADMINISTRATION OF SECALE CORNUTUM.—Dr J. Veit of Berlin records a case of this kind in Bd. iii. s. 253, *Zeitschrift für Geburtshülfe und Gynäkologie.* The case was one of rigid os, and the pains were stated to have been at first of a spasmodic character. For alleviation and removal of the spasm Dover's powder was administered on the first day of the labour. On the next day, as the pains were ineffective, ergot was given, although the os uteri was still very small. The administration of the drug was stated to be followed by uterine inertia, although the patient complained of much pain. On the following morning ergot was a second time given. Towards midday the external os was retracted over the head. About this time the patient was brought under the notice of Dr Veit, the labour having then continued for at least forty-eight hours. The uterus was observed to be firmly and persistently contracted; the cervix, according to external observation, not very greatly over-distended, but the fundus very high up. The pelvic measurements indicated an entirely normal pelvis. The feel and appearance of the head was such as might have been expected had a cephalotribe been applied to it. The occiput was towards the left and forwards, and the right parietal bone projected one inch over the left and was very movable, and could be readily pushed either towards the brow or the occiput. The fœtal heart could not be heard. Labour was terminated readily by pressure on the fundus, aided by slight traction on the loose scalp. The uterus did not contract well, but remained in a condition intermediate between contraction and relaxation, having a doughy feel. The afterbirth was peeled off the uterus, after Dr Veit had waited half an hour in the vain expectation that the uterus might be got to contract and expel it. The uterus made not the slightest effort at contraction when this was being done. There was no bleeding at this time. Hæmorrhage came on, however, after a few hours, but was readily arrested by the ordinary means. The patient made a good recovery, and only suffered during the lying-in-week from retention of urine. There was observed on the child's thorax a marked impression passing obliquely across it, from above downwards from right to left, and dividing it into two halves. Above the situation of this line the colour of the child's skin was deep red, below it extremely pale. This impression appeared to be the situation of the spasmodically contracted internal os uteri. Above this situation in the child—*i e.*, beneath its position, while the fœtus was in the uterus, it was manifest that the child's body had been subjected to relatively less pressure than the part of its body beneath that line. The upper part of the child's body must have occupied the cervical segment of the uterus, whilst the lower part was contained in the cavity of the body of the uterus. There were two fractures observed in the right parietal bone, one of them 1·2 inches long running from the greater fontanelle towards the parietal tuberosity, and another 0·8 inch long running from the sagittal suture towards the anterior angle of the right parietal bone.

PERITONITIS AND DEATH FROM INJECTION OF SOLUTION OF THE ACETATE OF LEAD THROUGH THE TUBES INTO THE PERITONEAL CAVITY, is the subject of a most important communication by Dr Ernst Späth in No. 25 *Centralblatt für Gynäkologie*, 7th December 1878. The patient, a young healthy woman, suffered from severe hæmorrhage ten weeks after her third confinement, when she was ordered by Dr Späth to use a solution of acetate of lead, 8 parts of the salt being dissolved in 500 of distilled water, as a vaginal injection. This was introduced by herself as she sat over a chamber utensil in the half sitting half kneeling position. For ten days all went well, but on the eleventh the operation was performed very hurriedly in consequence of the patient being disturbed by her husband, who happened to be sick, calling urgently for her at the time she was engaged in the process. Excessive pain in the lower region of the abdomen, pallor of countenance, and faintness suddenly supervened. Severe general peritonitis followed, and death occurred after 74 hours. There was no injury of vagina or uterus.

The post-mortem examination revealed great distension of the bowels, marked reddening of the serosa of the small intestine, especially in the neighbourhood of the uterus. On the surface of the serous covering of the small intestine there were found as high up as the umbilicus, and over the entire breadth of the hypogastrium, partially scattered in isolated spots, partially lying closely together, certain flattish deposits of a diameter of 1·2 to 0·8 of an inch, rounded in outline and of a grayish black colour, which could be readily scraped off, and did not correspond with any specially intense injection of either the serous or mucous membrane. The same deposits were found at the angles of reflexion of the inner surface of the uterus, which otherwise presented the normal size and structure, and, like the vagina and rectum, was entirely uninjured. The precipitate scraped off from the different spots was determined by chemical tests immediately applied to consist of sulphide of lead. The author holds that this case proves incontestably the possibility of the passage of fluid through the tubes into the peritoneum even when the vagina and uterus and the tubes themselves are all normally developed, under certain favourable conditions, such as when much force is employed in the injection, as in the present instance. He thinks that possibly the patient had passed the end of the injection-pipe inside the external os uteri in this case, and recommends the greatest care to be observed in making such injections.

A NEW METHOD OF STERILIZATION OF WOMEN is the subject of an extraordinary paper in No. 26 of the *Centralblatt für Gynäkologie*, 21st December 1878, by Dr J. Kocks in Bonn. The method proposed is intended for cases where it is urgently necessary that a woman should not become pregnant, as when she suffers from extreme pelvic contraction, severe cardiac, pulmonary, or renal disease, and consists in the introduction into the cavity of the uterus of a galvano-caustic apparatus, in the form of a copper uterine sound, provided with a platinum point. The point of the instrument is then made to approach the neighbourhood of the inner end of first one and then another of the Fallopian tubes, and, the current being closed, its point is thereby rendered incandescent and made to produce such an amount of cauterization of tissue as shall obliterate the tubes entirely at their junction with the uterus. The author reports one case in which he operated, the patient being a sufferer from phthisis. He states that the pain was slight, and the entire operation was completed in a few minutes. The incandescent point was allowed to remain applied on the one side of the uterus for 45 seconds, and on the other for 1 minute. There was slight uterine colic after the operation, and for a few days some brownish discharge. The author likewise asserts that completely accurate adaptation between the inner opening of the tube and the point of the sound is not necessary, as it is sufficient to be near it, the cauterization extending to the depth of at least a centimetre.

PERISCOPE OF OTOLOGY.

By J. J. Kirk Duncanson, M.D., C.M., F.R.C.P., and F.R.S., Edinburgh, Surgeon to the Ear Dispensary, 6 Cambridge Street, Lothian Road; Assist.-Surgeon, Eye Infirmary; Lecturer on Diseases of the Ear, Edinburgh School of Medicine.

The Microphone.—Two subjects of interest in connexion with the practical application of the microphone have lately been brought to my notice by Raja Sir T. Madava Row, K.C.S.I., Dewan of Baroda. In the hope of securing a little assistance from some of your scientific readers, I hasten to lay them before you.

The first question is with reference to the use of a microphone as a stethoscope. It seems that native ladies of high position decline altogether to allow a doctor to examine the chest in the ordinary manner. Sooner than submit to such an examination they would prefer to die—certainly rather a staggering fact for those imbued with European ideas. In the cause of humanity it is therefore desirable to do something for those whose position and caste would be imperilled by *direct* examination. If the microphone could be so delicately arranged as to transmit the auscultatory sounds, a medical ear, even at a distance, would surely be able to detect the existence of any disease of the heart or lungs. In the first experiments that we have made with our limited appliances, we have been able to hear the ticking of a watch at a distance of about 200 yards, and the roar of a black ant when attacked by his companion, but as yet we have heard no internal sounds from the human breast. Perhaps with better devised instruments some one may have been able to obtain that which has yet been denied to us. I am sure many native ladies would be glad to get an affirmative answer to the question—"Can the microphone be used as a stethoscope?"

The second subject seems to me to be a much more difficult one to grapple with. Sir Madava Row writes to me as follows:—

In the undulating region of Travancore, where the water-bearing strata heave and fall according to the locality concerned, I have come across a set of professional men who are generally consulted by those who wish to sink wells in view to ascertain whether, at a given spot, a well may be sunk with the probability of finding water *near enough*. These professional men undertake to predict where the springs will be found near, and where they will be found at great depth, and their predictions are generally verified with great accuracy. I took some trouble to ascertain how these men are enabled to predict the proximity, or otherwise, of the springs underground. Brushing aside the ceremonies and incantations they perform in view to deceive others, and perhaps themselves also, I found that they detect the proximity of the subterranean springs by lying down on the bare ground in the dead silence of night, with the ear in contact with the ground, and trying to *hear the sound* of the flow of water in the strata beneath. By practice the ear is made very sensitive, and the degree of distinctness with which they hear the sound of flowing water enables them approximately to predict the depth of the springs. It is in this manner that appropriate spots are selected for sinking wells.

"Now, would any of the instruments you are experimenting with magnify the sound of the subterranean flow of water so as greatly to facilitate the process I have described? If so, it may be a considerable practical gain."

To this query I have hitherto been able to return no other answer than a negative one. Both the subjects are practical ones, and I only hope that there will be before long some light cast upon them (Thos. S. Tait, Baroda, India, 4th November 1878).—*Nature*, 19th December 1878, p. 146.

VULPIAN ON FACIAL PARALYSIS.—It is generally thought that the etiology of facial paralysis is most clear and simple to understand. There exist, however, a few points which have remained rather doubtful until now, and to which M. Vulpian has devoted much study in endeavouring to elucidate them:—1. Ought the facial nerve to be considered as one bundle, or as consisting of two —a superior and an inferior, the former not going beyond the ganglia, from which the nerve originates, whilst the latter is in direct communication with the brain? 2. Is there such a thing as paralysis of the face originating from the central nervous system? As to the first question, M. Vulpian is of opinion that there is not much difference between the two portions of the facial nerve so far as regards the relation in which they stand towards the cerebral ganglia and the cortical substance of the brain. As to the second question, among the motor centres in the surface of the brain there is one for the face also. If, therefore, the conductors which communicate between the ganglia, from which the facial nerve originates, and the gray matter of the brain be injured, this may produce facial paralysis. The diagnosis of facial paralysis originating from the brain may be put under the following conditions:—1. If the paralysis be not general; 2. If the reflex movements persist; 3. If the faradic contractility still exists. In some cases, however, it is exceedingly difficult to determine the exact spot of the lesion. It is well known that faradic contractility of the muscles is not suspended in paralysis when produced by rheumatism, except in the face. This exception may be explained by tumefaction of the injured nerve, which is at the same time compressed in the osseous canal through which it runs. Another very obscure point, on which M. Vulpian has not ventured a decided opinion, is the explanation of the difficulty which attends nutrition in cases where the intra-cranial portion of the fifth nerve has been divided from its origin.—*The British Medical Journal*, 28th December 1878, page 964.

GENERAL PRACTITIONERS AND OPHTHALMIC SURGERY.—The various branches of medicine and surgery have attained such dimensions within the last fifty years that it is beyond the powers of ordinary individuals to gain an equally accurate knowledge of them all, or to become skilful in the practice of each. In our modern cities, consequently, specials have come to be recognised as necessary both by the profession and the public. While the benefit to medical science, to the profession, and to the public of this now established custom cannot be denied, still it carries with it one evil which ought to be corrected. It seems to be commonly accepted that, because certain branches require special training in order to be skilful in their practice, therefore, for those who do not propose devoting themselves entirely to some one of those branches, it is useless to pay any attention to them whatever. In large towns, of course, less harm need result from such a line of argument, but the opposite holds good for small provincial towns and rural districts. In such places the inhabitants must depend on their local medical adviser in every ailment, and in almost every instance they receive as sound advice and as skilful treatment as though they lived in the metropolis. The chief exceptions to this rule are when some of the diseases which come under the head of "specialties" are met with. It would not, however, be too much to expect from every practitioner that, even in what are called special branches, he should be able to recognise and treat the simple diseases of every organ of the body, and that he should be acquainted with the signs and symptoms of those formidable diseases which require for this treatment the education of a specialist. Above all others, ophthalmic surgery is the branch of medical science which is most sinned against in the way referred to, and the consequences are more serious than is perhaps generally known. Every ophthalmic surgeon, with even short experience, can testify how common it is for patients to present themselves in the private consulting-room, as well as at the hospital, long after all hope of relief by treatment is passed, although in an earlier stage of the disease blindness even might have been averted. There are often cases where one disease of the eye has been mistaken for another, or where the case has not been recognised as one of eye disease at all, or where the treatment has been wrongly conducted. We do not wish to convey that all general medical practitioners are unduly ignorant of ophthalmic surgery; but it is alleged by experienced observers, that the practitioner who can be depended upon for a diagnosis of some of the chief diseases of the eye is the exception to the rule. The injury to the public, and the loss in every way to the professonal men themselves caused by this state of things are very great indeed, and must be so apparent that it is unnecessary for us to dilate upon them.

What remedy is to be found for all this? There is but one which can be of any practical use, namely, that a knowledge of ophthalmic surgery be made compulsory by the licensing bodies. There is only one diploma in the United Kingdom for which a certificate of attendance upon ophthalmic surgery is required, and the candidates examined in this branch. We allude to the degree of Bachelor in Surgery of Trinity College, Dublin. It is well known that the average run of medical students will not direct their attention seriously to any study which will not assist them at the examination for their diplomas. To obtain the latter is the great aim of every student; what may happen afterwards they do not pause to think. A few do spend a short period in attendance at an ophthalmic clinique, but the vast majority of those who pass out into the world as qualified practitioners can, on obtaining their diplomas, barely distinguish a case of iritis from one of conjunctivitis. Why should a knowledge of botany be required while the candidates need know nothing of ophthalmic surgery? The curricula of the licensing bodies require modification. We do not wish to see the number of lectures required from students increased, but we would gladly see such a subject as botany excluded altogether, while in subjects where two or three courses are required, one course should be sufficient. In this way time would be gained for the introduction of a three months' course of lectures upon ophthalmic surgery, with three months' attendance at an ophthalmic clinique, besides time for more extensive study of modern physiology, histology, and pathology.

We recommend this matter to the consideration of the licensing bodies as one which demands their serious attention and prompt action. When the examinations of the proposed conjoint bodies come to be definitely arranged, it is to be hoped that ophthalmic surgery will be in the list of subjects, a knowledge of which will be required from the candidates.—*British Medical Journal*, 28th December 1878, p. 963.

AURAL SURGERY IN GENERAL PRACTICE.—A well-informed correspondent writes to us:—While your able article in the *British Medical Journal* of last week on ophthalmic surgery in general practice is still fresh in the minds of the profession, I think something ought to be said in favour of requiring some knowledge of aural surgery at the pass examinations. There can be no doubt that considerable ignorance in regard to ear diseases exists on the part of the great body of general practitioners, due simply to a want of attention to the subject. The results of neglected ear diseases are only too well known to every aural surgeon; and, apart from the question of comfort, these diseases, if neglected, are in all probability more (Von Tröltsch says much more) dangerous to the life of the patient than those affecting the eye. The great frequency of these diseases (according to Von Tröltsch they are at least as frequent as eye diseases, and are to be reckoned amongst the commonest diseases of childhood), and the advantage of treating them in the early stages, are subjects on which it is unnecessary to enlarge. Considerations such as these render it very advisable that every surgeon should be able to diagnose and treat the commonest forms of ear diseases, and to recognise those cases in which further advice is necessary. There can be no doubt that, as in the case of ophthalmic surgery, this desirable result will not be obtained until some knowledge of this department is required of every candidate for a license to practise. The knowledge required (which should be thoroughly practical) need not be great, and might be such as could be acquired by attendance for a short time at one of the aural *cliniques* now attached to almost all the large hospitals. The subject is one deserving of consideration, and all interested in it would do well to read Von Tröltsch's able article entitled "Vorstellung beim Reichskanzleramt die Berücksichtigung der Ohrenheilkunde betreffend," in the *Archiv für Ohrenheilkunde* for December 1878, in which the subject is very fully treated.—*British Medical Journal*, 11th January 1879, page 55.

FROM experiments here described by Mr Jacques, it appears that currents of air of varying density, as in Tyndall's well-known experiment, not only diminish the *intensity* of a sound, but affect its *distinctness*. This holds good especially for the human voice, and for musical instruments with few overtones (as the flute). The effect on the voice is that of a repetition of each syllable several times in close succession. Sound-waves were traced out in the space of an auditorium in Boston, and their confusion shown on introducing air-currents. The good acoustic properties of the Baltimore Academy of Music are proved to be due to arrangements by which a large volume of air is conducted, in gentle current, across the stage and diagonally towards the roof. When, by closing certain valves, ventilation was arrested and currents of circulation generated, the sound was noticed to be "dead" or "confused and indistinct" (*Journal of the Franklin Institute*, December 1878).—*Nature*, 30th Jan. 1879, page 306.

M. PLATEAU writes on a law of the persistence of impressions in the eye. With two discs having the same number of sectors, and the white sectors of the one being equal in angular width to the black discs of the other, the "times of apparent constancy" of the two impressions are to each other in inverse ratio of the brightnesses of the two gray tints producing these impressions. A complete impression, whether intense or weak, has no appreciable time of apparent constancy; and the time is longer, the more incomplete the impression. The degree of illumination of the object has but a weak and indirect influence on the time of apparent constancy (*Bulletin de l'Academie Royale de Belgique*, Nos. 9 and 10, 1878).—*Nature*, 30th Jan. 1879, page 306.

A CORRESPONDENT asks us whether the "microphone electromagnetique," said to be invented by Dr Frank, Rue St Honoré, Paris, is really a useful invention for deaf persons, or not? We have not yet heard of any microphone which in any way assists the deaf.—*Nature*, 6th Feb. 1879, page 325.

GREENOCK ARTICULATION SCHOOL, instituted by Professor A. Graham Bell, for the instruction of the deaf. The committee, consisting of Thomas Borthwick, Esq., and William Buchanan, Esq., having deaf children of their own, for whom they wished to secure the best possible instruction, resolved to open a school for the instruction of the deaf by the system of visible speech. For that purpose they have, with the assistance of Prof. A. G. Bell, secured the services of a teacher from the School of Vocal Physiology in Boston University. One feature specially commendable is the securing by the committee the privilege of having their pupils taught along with the scholars of the Greenock Academy in such subjects as they can profitably be instructed in together, as writing, drawing, painting, sewing, etc. Thus, they are not set apart by themselves as a peculiar class, but mingling with hearing children in their studies and play, they have a much greater incentive for improvement. We believe this is the first and only school of the kind in Great Britain, and being convinced of the benefits conferred on the deaf *not* dumb by their being educated according to Prof. Melville Bell's (of Edinburgh) system of visible speech, we cordially wish the undertaking great success.

FOREIGN BODIES IN THE EXTERNAL AUDITORY MEATUS.—Dr Kaatzer of Visselhövede, relates the case of a farm-servant who came to him complaining of deafness, fulness, and at times, severe piercing pains in his left ear; on examination, the external auditory meatus was found to be filled with a wriggling mass of worms, the brood of the common blue-bottle fly. Dr Kaatzer endeavoured to remove them by syringing the passage with tepid soapy and carbolic water, besides blowing tobacco-smoke for some time into the cavity and dropping in chloroform; syringing was still unsuccessful. With the other instrumental means Dr K. had at hand, he also failed; but before dismissing the patient to return next morning, he bound a slice of Dutch cheese over the outer opening of the external auditory meatus, which was to remain until the patient returned. The patient had a good night, and his curiosity tempting him to see the cause of that, he removed the bandage and the cheese on getting out of bed; and finding the worms in the cheese he threw the whole away, before returning to Dr Kaatzer to report himself cured. Dr Kaatzer found it impossible to remove the worms with the ordinary forceps without the assistance of reflected light, and wisely desisted from persevering in an attempt where much harm is often done by working in the dark. The larvæ on being touched with the forceps retreated to the bottom of the meatus and took a firmer and more painful hold of its walls and floor. He was prepared for a more energetic assault on the vermin had they not yielded to the savoury morsel.—*Berliner Klinische Wochenschrift*, No. 52, 30th December 1878, page 772.

THE BOSTON SOCIETY FOR MEDICAL OBSERVATION

Part Fifth.

MEDICAL NEWS.

Minto House Medical School, Edinburgh.—The following lecturers were appointed on 14th February to the New Medical School in Chambers Street:—Dr Symington, Anatomy; Dr Craig, Materia Medica; Mr Daniell, M.A., B.Sc., Medical Physics; Dr Waller, Pathology; Dr Kirk Duncanson, Diseases of the Ear; Dr Jamieson, Skin Diseases; Dr Halliday Croom, Midwifery. The other lecturers who had been already appointed are:—Dr Wyllie, Practice of Medicine; Dr Angus Macdonald, Midwifery; Dr Aubrey Husband, Medical Jurisprudence and Public Health; Mr Chiene, Surgery; Mr J. Falconer King, Chemistry; and Dr Ewart, who has been appointed Regius Professor of Natural History in Aderdeen, and is now succeeded by Dr Symington. The lectureships remaining to be filled up are Physiology, Botany, and Natural History; but in addition to these there will be other non-compulsory classes than those already mentioned.

Royal Maternity Hospital.—After upwards of ten years' service as one of the ordinary physicians to this hospital, Dr Ziegler has resigned his appointment, and the directors have unanimously appointed Dr Angus Macdonald an ordinary physician. Dr Macdonald will succeed Professor Simpson as physician on duty for the quarter beginning 1st March.

Temperature and Pulse Chart.—We have received a specimen of a very neat and compact chart for recording pulse, temperature, and respiration in acute cases for morning and evening for three weeks, within a little leather case, only 6 inches by 3, for convenience of carriage. It is made to the design of Dr Hadden of Manchester, by Holderness & Co. of that city.

The Eucalyptus.—We have often referred to the value of the eucalyptus tree as a means of destroying or preventing malaria. Some of the experiments made with this object have proved so successful that the cultivation of this tree is being rapidly extended. For example, in Algeria two millions of these trees have been planted in different parts of the country; but this not being enough, a company has been formed for the purpose of planting a large additional area, while the French Government has granted a subvention in aid of the project. In Corsica more than a million trees have been planted, but, according to the *Daily News*, it is in Italy and Cyprus that just now the most interesting experiments are being made. Prince Troubetkoy, who has taken up this matter energetically in Rome, says that careful observation has brought him to the conclusion that the *Eucalyptus amygdalina* is the most useful variety of the tree. It is not only picturesque, but of exceptionally rapid growth—plants grown in pots, and replanted at the age of six months, have attained in eight years a height of seventeen mètres. Moreover, its leaves contain six times as much volatile oil as those of the *Eucalyptus globulus*. The prince adds that this kind grows as well in a damp as in a dry and exposed soil, and also that it bears cold very well, seeing that at his villa in the neighbourhood of Rome it resisted a temperature of six degrees below zero Cent. (21° Fahr.) He says that the eucalyptus, when young, requires care, which it subsequently repays with usury. As during the ensuing spring this tree is to be planted on a large scale in Cyprus, the authorities in that island would do well to profit by Prince Troubetkoy's practical experience.—*British Medical Journal*, 1st February 1879, page 174.

Young plants of the *Eucalyptus amygdalina* might be grown in pots in the wards of the present Royal Infirmary, and planted out in the southern slopes of the grounds of the new Royal Infirmary in the early summer. A plant of the *Eucalyptus globulus* is pleasant to have in a room in the house, and Messrs Downie & Laird, of the Winter Gardens, have for some time past been selling them for that purpose with satisfaction to the purchasers.—*J. J. K. D.*

The essential oil of the *Eucalyptus oleosa* (Mallee scrub) is employed in the manufacture of oil and spirit varnishes. Varnish containing this oil in the place of spirits of turpentine is said neither to bloom nor crack. It is, moreover, stated to be a perfect solvent of indiarubber without heat.

ARMY MEDICAL SCHOOL, NETLEY.

THE prizes were distributed at Netley on 3d February 1879, at the conclusion of the thirty-seventh session of the Army Medical School, by Surgeon-General Sir J. Fayrer, K.C.S.I., LL.D., M.D., F.R.S., in the presence of Surgeon-General Massey, C.B., the P. M. O., the Commandant, the Professors, and a number of military and medical officers and visitors.

The following is a list of the successful candidates for commissions as surgeons in Her Majesty's Indian medical service, including the recipients of prizes:—

No.	Name.	Marks.	No.	Name.	Marks.
1.	Sweeny, T. H. * †	5171	9.	Briggs, H. B.	4246
2.	Barry, D. F. **	5115	10.	Carson, W. P.	4235
3.	Harris, G. F. A.	5093	11.	Faulkner, A. S.	3836
4.	Anderson, J.	5073	12.	Mallins, C.	3834
5.	Bamber, C. J.	4618	13.	Damla, E. M.	3236
6.	O'Dwyer, M.	4604	14.	Allen, R. M.	3186
7.	Dumbleton, E. H.	4415	15.	Carruthers, H. St C.	3089
8.	Lowdell, C. G. W.	4264			

* Gained the Parkes Memorial Bronze Medal.
† Gained the Herbert Prize. ** Gained the Martin Memorial Medal.

The following were the successful candidates for commissions as surgeons in the medical service of the Royal Navy:—

No.	Name.	Marks.
1.	French, A. M.	3507
2.	Williams, E. H.	3504
3.	Fergusson, E.	3176

Sir J. Fayrer, after distributing the prizes, addressed them nearly as follows:—

Having completed the agreeable duty of distributing prizes to those who have earned those honourable distinctions, I now turn to that of addressing a few words to you on the completion of your studies at Netley, and on the eve of your departure to commence the work of your professional life.

I desire, first of all, to offer my congratulations to the Principal, the Professors, and the medical officers of the Army Medical School on the successful completion of another term, and on the very marked evidence afforded by the report that has just been read, that this institution continues to maintain its high standard of utility, and the candidates the discipline and conduct that becomes their position. I would also take this opportunity of warmly congratulating Surgeon-General M'Lean on his restoration to health, and express a sincere hope that his valuable services may long be continued to the institution, of which he has been for so many years its principal support, and a brilliant ornament.

I feel sure that no one can have seen this school and hospital, with its splendid appliances and machinery for medical education of a special kind, without recognising the great power it must exercise for good on the sanitary welfare of our army and navy, the civil population of our colonies, and of India; nor can he have failed to observe how great is its capacity for even extended utility. For my own part, I have always longed to see it take a much more prominent part than it does at present in the education and final training of our young medical officers, and I hope the time may come when it will extend its instruction to a greater number, and over a longer period of time to each individual.

Among many rumours that have gone abroad in relation to impending changes in the medical service, there has been one that pointed to the abolition of the school altogether. I can hardly believe that a step so fatal to the best interests of the service should have ever been contemplated, or that if it had, it would ever have been carried into effect. I believe that no such future awaits it, but that it will rather increase in importance and extend its usefulness; that it will not only continue to maintain its present position as a great army and naval medical school, but I even hope that, as a sort of medical staff college, it will become more and more the resort of medical officers, who may here have the opportunity of renewing their knowledge, of keeping themselves abreast of the rapidly-advancing progress of medical science, and of fitting themselves for those special appointments that are so frequently occurring in the services, especially in India.

Times have been unfavourable of late years with the medical services, and many reasons have been assigned for the decadence. This is neither the place nor the time to discuss them or their results, especially when we have every reason to hope and believe that a better prospect is near. This only I would say, that the position of the military or naval medical officers ought to be such as to command an abundant supply of the *élite* of our universities and medical schools, and that it will do so when certain obstacles, which there is reason to hope will be removed, are out of the way.

Gentlemen, I believe a good time is coming, and I trust you will prove yourselves equal to support and do it credit when it arrives; and here I may say to you, what perhaps one not of your own service and profession neither could nor would say, that as some of the difficulties which have stood in the way of progress may have originated in the service itself, how greatly it behoves you all to see that such difficulties should in future be avoided. Important public duties involving great responsibility, if performed by men of education who are of accord in maintaining their self-respect and the dignity of their office in a spirit of unselfish loyalty, must command public esteem and respect, and must also bring social and official consideration and standing. Wanting these attributes, however high the esteem in which *individuals* may be held, that esteem will not be extended to them collectively as a service. I can imagine nothing better calculated than the training at Netley to imbue, foster, and develop that spirit, without which there can be no sustained well-being or real stability in any public service. These are merely *hints*. I leave it to you to make the application.

Gentlemen, I have to congratulate two of your number on the acquisition of prizes all bearing the names of men who deserved well of their country, and who may rightly be held up to you and other young men, in whatever walk of life, as models for imitation.

I trust the success implied in the winning of these prizes may attend you through life; but I would ask you in the future not to regard them merely as souvenirs of a successful career at college, but rather let them act as incentives towards the attainment of that which made Sydney Herbert, Ranald Martin, and Edmund Parkes names of honour and respect wherever they are known, and that may in time to come perchance reflect lustre on your own names. All cannot win prizes, but all must have done well, that you are here at all proves it. I would just say to those who have been less successful than others, that there are many prizes in the career before you if you will take advantage of the opportunities that may offer. I do not undervalue college prizes—far from it, but I am bound to say that I have known men who, if they won none as students, gave signal proof in their after-lives that it was not from lack of ability. I have heard it said that the public services offer no inducement, that they are one dull level of monotonous equality, and that talent, energy, zeal, and the like, do little, or are of no avail more than mere good behaviour and compliance with official decorum and routine. I think this is hardly true here; I am sure it is not in India. When I had the honour, four years ago, of addressing a similar audience here, I gave a sketch of the nature of the Indian medical service, and the appointments it offers to them who will try for them. I might repeat what I then said, but I shall content myself by saying that such appointments still exist; and I think if some of those I then spoke to were here now, they would say I did not mislead them. I do not mean to say that good appointments are to be picked up without effort, or as blackberries may be gathered from every bush, but that they are sufficiently numerous to offer a fair prospect of success to all who really work for them.

Do not suppose there are no drawbacks in the Indian medical service. Climate, expatriation, separation from friends, would all refute the assertion if I made it. There are many appointments, too, with the bare military pay of the rank, and they are not very lucrative; but still I assert with confidence, that no medical service in the world offers better prospect of professional advancement, and even pecuniary success. I need not, I suppose, remind you—you have doubtless found it out long ago—that in no case can one look for much wealth, or rise to high place in the scale of public honours; but these, after all, are not everything: you may look to a useful and honourable life, to professional eminence, to the esteem and respect of others, and perhaps to the consciousness that you have done your duty to your fellow-men in a fashion that falls to the lot of no other profession (save one) to perform. As public medical officers you are charged with the life and health of our soldiers, our sailors, and sometimes of large civil populations, for whom you have to fight the great battle of disease, and against whose inroads you have to defend the fortress of health. In India your responsibilities are very great, for you will find yourselves charged with extensive duties, and your experiences will be varied. Remember (as I said on a former occasion) that you are not merely the medical officers of the army there. You are the medical profession of a country as large as Europe, excluding Russia, and to some of you will be entrusted the duty of advising Government on the sanitary welfare of 240,000,000 of people. You will be the educational staff of the colleges, the consulting physicians and surgeons of the great centres of population. You will have charge of armies in the field and in garrison, to say nothing of a variety of other civil and military appointments that I cannot stay to enumerate. You will at least have a competency that makes you independent. If you are fortunate, you will have much more. You become entitled, after certain periods of service, to pensions for yourselves and your families, which, if not great, are certainly as good as the pensions of any other medical service; and you may hope to return to your native country at a time of life when you may still be useful to your friends, to yourselves, and to your profession. This is not such a bad prospect! In some respects, perhaps, the Indian medical service has fallen from its former high estate, but it still holds out prizes, and I can honestly say, after many years' experience, that I have not known any really good man to fail in the end. As to climate, with care and moderation in all things, you will probably preserve your health sufficiently to find yourselves equal to those of your own age at home, when you retire from the service.

Gentlemen, my remarks have been addressed chiefly to the Indian medical candidates. I have said little in reference to the British section of the service, for the simple reason that there are no candidates for that service to say anything to. I sincerely hope and believe that this is the last occasion on which he who addresses the Army Medical School will have to make this remark, and that at future distributions my successors will have the gratification of speaking to benches overflowing with candidates for all the three services. There is, indeed, reason, I hope, to think that it will be so. To my naval friends I have only to add that I offer them my best wishes for their success. To those, and there are such, who say that the naval medical service is not a hopeful one, I can only say that it is vastly better than it was when I belonged to it, and that it is still improving; and I would ask where Spencer Wells, Huxley, Hooker, and Macdonald were trained. It is a noble service, gentlemen, and your department of it is an important one. Be true to yourselves, be zealous officers and earnest workers, and loyal gentlemen, and rest assured that you will find in it, like the sister services, a field for an honourable career. I must not detain you longer. It only remains to wish you all prosperity and success in your respective services.

OBITUARY.

ALEXANDER WATSON-WEMYSS, M.D., F.R.C.S.E.—This gentleman, who passed away on the 4th of February, at the ripe age of eighty, could be comparatively little known to the present generation of his professional brethren, having retired from practice in Edinburgh more than thirty-two years ago, upon inheriting a landed property in the county of Fife. To the previous generation he was familiar—being a man of much professional acquirement, and very considerable professional reputation. Having served an apprenticeship, as was common in those days, with large opportunities of acquiring a practical knowledge of medicine and surgery, he manifested at an early period a decided predilection for ophthalmology, the branch of the healing art that chiefly brought him into notice afterwards, both among his brethren and in the community. A systematic treatise on the diseases of the eye, very creditable to him at the time, and illustrated by coloured engravings, after drawings by himself, passed rapidly through three editions; and this work was followed by numerous monographs on various diseases and operations connected with the same subject, all of them evincing accurate powers of observation, sound judgment, and professional aptitude. Dr Watson—for he did not assume the name of Wemyss until 1846—when he retired from practice, by no means neglected general surgery, but discharged, with credit to himself and advantage to the institution, the duties of surgeon to the Royal Infirmary for some years, at a time when the late Sir William Fergusson, the late Professor Syme, and other men of rising reputation, occupied the same position. At this period he published a treatise on homicide—still quoted—which added considerably to his reputation. It contained much valuable matter, gathered mainly from his hospital experience and other large opportunities of practical observation placed within his reach by the procurator-fiscal and police surgeon of the period. It is creditable to Dr Watson that, with his hands thus full, he founded the Edinburgh Eye-Infirmary in 1834, an institution which still exists, although his own connexion with it necessarily came to an end, when, as already mentioned, he retired from practice and from Edinburgh at the early age of forty-seven.

When Dr Watson-Wemyss took up his residence at Denbrae, his delightful rural retreat in the East Neuk of Fife, he did not forget either his professional tastes or his former professional brethren. His mind continued active as before; and, every now and then, essays and pamphlets issued from his quiet abode, indicating that he still took a warm interest in sanitary investigations, in the construction of infirmaries and lunatic asylums, and in other topics bearing on social welfare and economy.

His remembrance of old professional friends manifested itself in a manner very agreeable to them. During a considerable period he was in the custom of inviting large parties of them to spend a summer day with himself and family. Some still survive who must have a vivid recollection of these bright occasions, although many, alas! who shared in them have preceded their kind and hospitable entertainer. An early train from Edinburgh conveyed some ten or twelve hard-worked doctors in time for a sumptuous breakfast prepared for them in the hotel at St Andrews, their host waiting at the station to greet and welcome them on their arrival. With him, other medical friends belonging to the ancient city itself, to Dundee, to Broughty-Ferry, to Arbroath, joined the party, and all felt very much like boys let loose from school. Breakfast over, it was always leisurely, as may be imagined—the forenoon might be chiefly spent either in sight-seeing among the venerable ruins, or in following the golfers on the links; but it was sure to end in the visitors from Edinburgh being all photographed in a group under the superintendence of Dr Adamson of St Andrews, whose name is so closely linked with the commencement and early triumphs of that great modern invention. It is a touching fact, admitting of more than one interpretation, that the gathering of 1870, which preceded Dr Adamson's unexpected death by only a few days, was the last that ever took place. These occupations being satisfactorily accomplished, carriages were in waiting to carry us all to Denbrae, for an early but most hospitable and pleasant entertainment. Who can forget the evident emotion of our kind host, when on these occasions he expressed his satisfaction at seeing so many old contemporaries around his board!

The carriages were again ready to convey us to the station in time for the evening train. Then came a pleasant journey, under a setting sun, through the fertile valleys of Fife; the arrival at Burntisland, with a calm crossing of the Firth of Forth; and then a safe return to our homes, after a long day of much and varied enjoyment. These occasions, now gone for ever, will always be pleasingly associated with the friend of whose career this is a very imperfect sketch.

PUBLICATIONS RECEIVED.

'Ατιθάσσευτος,—Medical Men and Manners of the 19th Century. Baillière, Tindall, & Cox, London, 1879.

Edward Borck, M.D.,—Fracture of the Femur. Geo. O. Rumbold & Co., Saint Louis, 1879.

Raymond Caizergues, M.D.,—Des Myélites Syphilitiques. Hamelin Frères, Montpellier, 1879.

T. S. Dowse, M.D.,—Syphilis of the Brain and Spinal Cord. Baillière, Tindall, & Cox, London, 1879.

J. F. Farina,—Le Climat de Menton: son Influence sur le Traitement de la Phthisie Pulmonaire—Etude Clinique. Pp. 131. Prix, 2 fr. J. B. Baillière et Fils, Paris, 1879.

A. Forget,—Recherches Expérimentales sur l'Emploi du Perchlorure de Fer dans le Diphthérie: *Thèse pour le Doctorat en Médecine* présentée et soutenue le 10 Décembre 1879 [*sic*]. Année, 1879. No. 6. Pp. 31.

W. Handsel Griffiths, Ph.D., etc., — Materia Medica and Pharmacy. Fannin & Co., Dublin, 1879.

H. C. Lombard (de Genève),—Traité de Climatologie Médicale, comprenant la Météorologie Médicale et l'Etude des Influences Physiologiques, Pathologiques, Prophylactiques, et Thérapeutiques du Climat sur Santé. Tome III. Pp. 771. J. B. Baillière et Fils, Paris, 1879.

B. Lœwenberg,—Tumeurs Adénoïdes du Pharynx Nasal: leur influence sur l'audition, la respiration, et la phonation: leur traitement. *Avec deux figures intercalées dans le texte.* Pp. 75. V. Adrien Delahaye et Cie., Paris, 1879.

Henry Morris, M.A.,—The Anatomy of the Joints of Man. J. & A. Churchill, London, 1879.

Nouvelle Dictionnaire de Médecine et de Chirurgie Pratiques, *illustré de figures intercalées dans le texte.* Tome XXVI. [Par–Per]. Pp. 827. Prix, 10 fr. J. B. Baillière et Fils, Paris, 1879.

Dr Roth,—The Neglect of Physical Education and Hygiene. Baillière, Tindall, & Cox, London, 1879.

R. H. Semple, M.D., — On Diphtheria. Baillière, Tindall, & Cox, London, 1879.

Seventh Annual Report of Local Government Board—Medical Officer's Report.

Transactions of the American Ophthalmological Society, 1878.

Un Missionnaire, attaché aux Léproseries:— La Lépre est Contagieuse: *avec une carte coloriée de la distribution géographique de la Lépre.* Pp. 288. J. B. Baillière et Fils, Paris, 1879.

PERIODICALS RECEIVED.

American Journal of the Medical Sciences,—Jan.
American Journal of Obstetrics,—Jan.
American Journal of Otology,—Jan.
Analyst,—Feb.
Annales d'Oculistique,—Livraison Supplémentaire, 1878.
Annali di Obstetricia, Ginecologia e Pediatria,—Jan.
Archives Générales de Médecine,—Feb.
Archives de Tocologie,—Feb.
Archives of Dermatology,—Jan.
Berliner Klin. Wochenschrift, — Jan. 27–Feb. 17.
Births, Deaths, and Marriages, Monthly Return of,—Jan. Quarterly Return,—Dec.
Boston Medical and Surgical Journal,—Jan. 16–Feb. 6.
Brain,—Jan.
British Medical Journal,—Jan 11–Feb. 22.
Bulletin Général de Thérapeutique,—Jan. 30–Feb. 15.
Centralblatt für Chirurgie,—Jan. 25–Feb. 15.
Chicago Journal,—Jan., Feb.
Detroit Lancet,—Jan.
Dublin Journal of Medical Science,—Feb.
France Médicale,—Jan. 25–Feb. 15.
Gazeta Medica da Bahia,—Dec.
Gazette des Hôpitaux,—Jan. 23–Feb. 20.
Gazette Hebdomadaire de Médecine,—Jan. 24–Feb. 14.
Gazette Médicale de Paris,—Jan. 25–Feb. 15.
Gazette Médicale de Strasbourg,—Feb. 1.
Giornale Internazionale,—Dec.
Glasgow Medical Journal,—Feb.
Journal de Thérapeutique,—Jan. 25–Feb. 10.
Journal of Anatomy and Physiology,—Jan.
Journal of Nervous and Mental Disease,—Jan.
Kings, U.S., Proceedings of Medical Society of County of,—Feb.
Klinische Monatsbläter für Augenheilkunde,—Jan., Feb.
Lancet,—Jan. 11–Feb. 22.
London Medical Record,—Feb. 15.
L'Année Médicale,—Jan.
Medical Bulletin,—Jan.
Medical Press and Circular,—Jan. 29–Feb. 19.
Medical Times and Gazette,—Jan. 25–Feb. 22.
New Preparations,—Jan.
New York Medical Journal,—Feb.
Obstetrical Journal,—Feb.
Philadelphia Medical and Surgical Reporter, —Jan. 11–Feb. 1.
Philadelphia Medical Times, — Jan. 18–Feb. 1.
Physician and Surgeon,—Jan.
Practitioner,—Feb.
Praticien,—Feb. 10.
Progrès Médical,—Jan 25–Feb. 15.
Recueil d'Ophthalmologie,—Feb.
Revue Médicale,—Jan. 25–Feb. 15.
Sanitary Record,—Jan. 24–Feb. 21.
Sanitarian,—Feb.
Saint Louis Medical and Surgical Journal, —Jan.
Virchow's Archiv,—Jan.

THE BOSTON SOCIETY FOR MEDICAL OBSERVATION

Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*On the Head-Flexion in Labour.* By ALEXANDER RUSSELL SIMPSON, M.D., F.R.S.E., Professor of Medicine and Midwifery and the Diseases of Women and Children in the University of Edinburgh.

(*Communicated to the Obstetrical Society of Edinburgh, 26th February* 1879.)

SOME of the most valuable contributions that have been made in recent years to our understanding of the phenomena that come under the obstetrician's observation we owe to Professor Lahs, of Marburg. His writings seem to have attracted little notice as yet from our home *littérateurs;* but his chief work, published two years ago,[1] when it becomes better known, will do good service in two directions. On the one hand, it will help to dispel errors that are harboured in some text-books and teachings; and on the other, it will guide to a truer conception of many of the phenomena of pregnancy and parturition. As an illustration of the former service, I may note how satisfactorily he lays the antiquated ghost of gravitation that is called up from time to time to explain the predominance of head presentations over all the others. This poor ghost, called up sometimes in pages that make persistent and peculiar claim to be accounted scientific, appears in the page of Lahs to be at once a needless and a useless ghost: needless, for the phenomenon is shown to be due to other causes; and useless, for it is unequal to the task imposed upon it, and greater weight of the presenting part is *the effect and not the cause* of its low position. It does not become, to my mind, any more needful or useful that it is commonly brought on the stage under the great auspices of Aristotle.[2]

It is, however, rather to an illustration of the value of his work in the other direction that I wish now to invite the attention of the Society. I wish to show, namely, how his explanation of the production of the Flexion of the Head applies to a particular case that I do not know how to explain according to previously accepted theories.

---

[1] *Die Theorie der Geburt.* Bonn, 1877.

[2] The gravitation theory is also noticed only to be put aside in the latest productions of the French and Belgian schools. See the suggestive treatise *De l'Accommodation en Obstetrique*, by Dr J. Martel; and the admirably systematic *Cours d'Accouchements* of the younger Hubert.

Let me first call to mind in a sentence or two the various movements impressed on the fœtal head during labour. They are usually set down as six in number.[1] But two of them may be struck out of the enumeration, seeing that they go on more or less progressively throughout the second stage, and simultaneously with some one of the other movements. The *first* movement of Descent or engagement (as the French call it) may for a time be distinguished from every other change in the relation of the head, but it does not cease when the central point of the head leaves the straight line of the axis of the brim to move along the curved line of the circle of Carus. So with the *second* movement of Adjustment—the synclitic movement of Kueneke,[2] by virtue of which the engaging plane of the head is kept more or less nearly adjusted or levelled to the plane of the pelvis through which it is passing. The synclitism is not confined to the planes parallel to the brim, but is continued when the canal begins to curve forwards, and its planes meet that of the brim at a gradually increasing angle.

The other four movements occur in contrasted pairs. The first * (I. Flexion) and third * (III. Extension) are the converse one of the other. So are the second † (II. Internal Rotation) and fourth † (IV. External Rotation). Of the odd pair, * No. I. occurs in a typical case at the inlet; * No. III. at the outlet of the pelvis. Of the even pair, † No. II. takes place when the head is within the cavity of the pelvis; † No. IV. when it has got free of the canals. For the due appreciation of each of these four movements there are four questions that have to be asked and answered: 1. What? 2. Where? 3. How? 4. Why?

If we try to answer these four questions in regard to the first of the four movements—the Flexion, we get more assistance from Lahs than from any other writer on the subject, more particularly when we try to answer question 3. But let us briefly take up the questions in their order.

1. *The Nature of Flexion.*—The answer to the question, *What* is Flexion? offers no difficulty. It is a bending of the head forward. The head rotates on its transverse diameter, and is bent at the occipito-atlantoidal articulation, so that the chin is approximated to the sternum. It is sometimes called "the Roederer obliquity," because Roederer[3] described the head as being so

---

[1] 1. Descent.
2. Levelling.
* I. 3. Flexion.
† II. 4. Internal Rotation.
* III. 5. Extension.
† IV. 6. External Rotation.

The clearest and most compact account of the mechanism of labour that I know of in English will be found in an article by the late Dr Ritchie in the *Medical Times and Gazette* for 1865, p. 381.

[2] *Die Vier Factoren der Geburt*, p. 35.

[3] *Icones Uteri Humani Observationibus illustratæ.* Gottingæ, 1759. Tab. v. p. 21.

placed in the uterus that the chin was bent on the thorax, and the face directed to the fundus uteri, while the occiput alone, conical and pointed, entered the upper aperture of the pelvis. According to him, the head engaged in the brim not with its straight or occipito-frontal plane parallel to the plane of the brim, but with an oblique or sub-occipito-bregmatic plane parallel to that of the brim. But this leads us at once into the second question, which has regard to—

2. *The Sphere of the Flexion.*—*Where* does it take place? Whilst Roederer gave the head an exaggerated degree of flexion ere yet it had escaped from the uterus, Küneke[1] goes to the other extreme, and does not allow the flexion to take place until the internal rotation has been completed, and the sinciput is pressing upon the tip of the sacrum. To say that the chin is bent towards the sternum at the close of gestation, and before labour begins, is simply to say that the fœtus maintains, through the whole course of its development, the form imparted to it at its earliest formation. When the outlines of the embryo can first be clearly recognised, we have a boat-shaped body incurved on its anterior aspect, and any degree of extension of the trunk or head that is met with either before or at the full term is a deviation from the normal attitude. Hence when the membranes rupture we find a point near the centre of the sagittal suture corresponding to the axis of the pelvic brim. The movement of flexion, which brings a point nearer and nearer to the occipital protuberance into correspondence with the axis of the brim, begins whenever the advancing head meets with distinct resistance from the parturient canals. In certain cases, with relaxed soft structures and roomy pelvis or small fœtal head, there may never occur any marked increase of the normal incurvation. No appreciable flexion occurs, or occurs only at the floor of the pelvis. Most frequently it occurs markedly when the head first comes into relation with the resistant pelvic walls. But not seldom it has already begun within the cervical canal, and, in the case which has led to this communication, the soft or, as Lahs prefers to call them, the elastic canals alone have had an opportunity of making their impress on the head. It occurs highest up in cases where the normal-sized head meets with early resistance from rigidity of the elastic or narrowness of the bony canals, or where a large-sized head has to pass through canals of normal calibre and resiliency. So we are brought to the subject of which, as I have indicated, Lahs helps us to give the most satisfactory explanation, viz.:—

3. *The Cause of the Flexion.*—In answering the question, *How* is the head-flexion produced? obstetricians have usually followed Naegele in pointing out how the spine of the child is articulated to the base of the skull at a point nearer the posterior than the anterior extremity of the long diameter of the head, and they have assumed that the parturient force was transmitted to the base of the head through the medium of the resistant spinal column. The

---

[1] *Opere Citato*, p. 50.

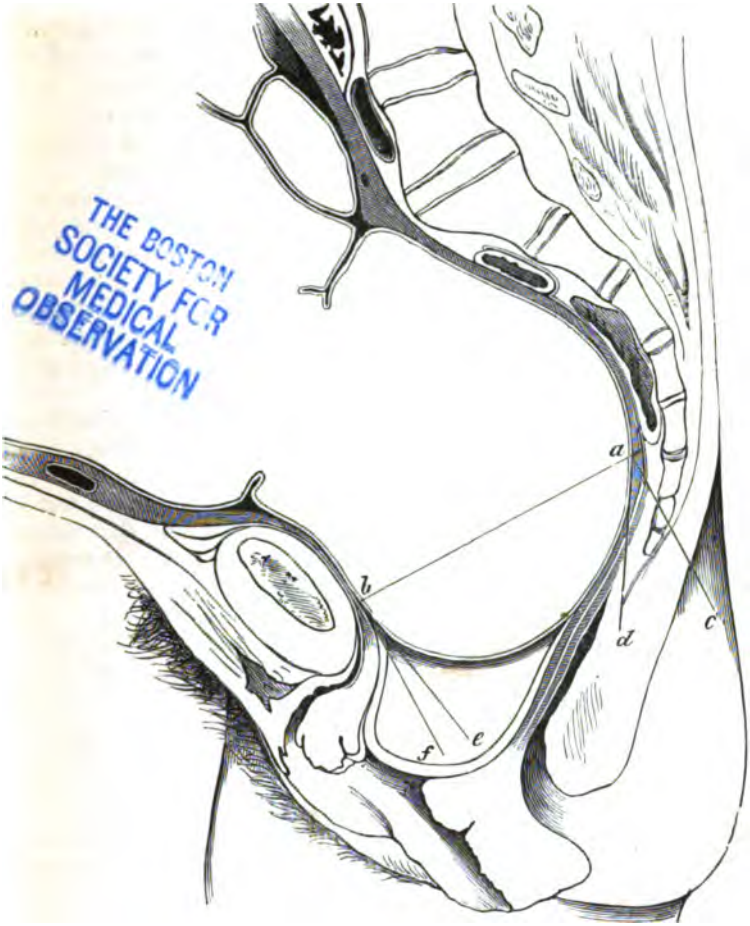
a wedge, whose surfaces are found through the tangents which we make on those points of the surface of the head which are immediately embraced by the girdle of contact. These tangents are *a d* and *b e*. When a force acts on such a wedge in the direction of the parallel lines *a c* and *b f*, that is, perpendicular to the plane of the girdle of contact (and the general contents-pressure as the dominating expulsive power always acts in that direction), it will push forward the surface *b e* through the girdle of contact by so much the more, as the angle *e b f* is less than the angle *c a d*. That is to say, in such a case there will be a depression of the hindhead." This angle he calls the guiding-angle. And the law is, that that end of the cephalic ovoid will be guided foremost, the tangent of whose surface in the girdle of contact meets the perpendicular of that zone at the smallest angle. Lahs's diagram applies itself admirably to the head of the child in Plate C. of Braune's well-known illustrations.[1] (See Fig. 3.) Let the divided margins of the external os represent a section of the girdle of contact (*a b*). Run a line (*b f*) through the anterior lip (*b*) along the back of the symphysis pubis, and another (*a c*) parallel to it through the back lip (*a*), and it will be seen that they indicate the canal through which the parturient force will expel its contents in a straight line. Apply now a tangent (*e b*) to the occiput at the anterior lip, and it will be seen to meet the anterior straight line at an angle (*e b f*) of **10°**. Apply a similar tangent (*d a*) to the sinciput at the posterior lip, and it will be seen to meet the posterior line at the larger angle (*c a d*) of 35°. When the parturient forces are in action the occiput will tend to descend more rapidly than the forehead in the ratio of three and a half to one.

It is noteworthy that the section of the fœtal head in Braune's plate is oblique. Lahs applies his theory simply to the straight occipito-frontal diameter of the head. When we see it capable of application to such a section as Braune's, we may conclude that it is applicable to any similar section which runs from a point in the hindhead between the parietal and occipital bosses to the opposite point in the frontal region. If the head be looked at in profile the line that runs over the vertex between the parietal protuberances may be regarded as a ridge from which there are two inclines—the shorter one running downwards and backwards towards the occipital protuberance, the longer running downwards and forwards towards the frontal eminences. The posterior gradient is everywhere the steeper of the two, and this, supposing the theory of Lahs to be true, enables us to comprehend more fully the force of the special factor on which it fixes our attention.

This result of the peculiar wedge-like shape of the head is produced during the continuance of a pain. But when the pain has reached its acme, and begins to relax, there comes into play another force, which continues to increase the flexion that has been initiated in the manner I have described. The resiliency of the elastic canals, namely, now begins to assert its influence. Here the observations of Lahs are not so original. Other obstetricians have pointed out this effect of the elasticity of the soft walls even during the pain, but I give the explanation of their influence in his terms, and with his diagram, the rather that I first learned it from his paper on the subject in 1870.[1] The quotation or paraphrase which I make now, however, is still from his last work,

---

[1] *Die Lage des Uterus und Fœtus, etc.*



THE BOSTON SOCIETY FOR MEDICAL OBSERVATION

Fig. 3.

---

[1] *Der Durchtrittsmechanismus des Fruchtkopfes, etc. Archiv für Gynækologie*, I. 430.

Die Theorie der Geburt (p. 196). We are to think of the head as in the position represented in this woodcut. (See Fig. 4.) When the head is compressed in its greatest periphery in the line of the girdle of contact *a b* by the elastic walls, as they resile at the close of a pain, the pressure will be applied to the points *a* and *b*. To ascertain the effect on the head, we must break up the forces *a* and *b* into their components of *c* and *d* for *a*, and *e* and *f* for *b*. Then we see that the quanta of force represented by *e* and *d* exert no influence on the head. The forces *c* and *f*, on the other hand, act in precisely opposite directions, and as their points of pressure do not lie in the same straight line, they impart to the head a rotation in the direction indicated by the arrows *c* and *f*. This rotation produces an approximation of the chin to the sternum, and promotes the descent of the hindhead. In other words, the flexion which is begun during a pain is kept up and increased by the elastic reaction of the soft canals that immediately ensues.

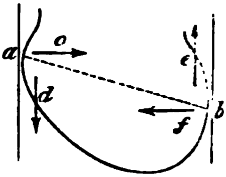


Fig. 4.

Now, I have still an impression, which may be only a prejudice, that Lahs goes too far in minimizing the influence of the lever form of the long diameter of the head, and letting us retain the old explanation of the production of the flexion only in as far as the specific gravity of the fœtus exceeds that of the surrounding liquor amnii. One cannot help thinking that under the influence of the form-restitution-power, as Schatz calls it, of the uterus, when the uterus gathers itself as a resistant tube around its contents, the pressure of the fundus must sometimes bear upon the breech of the child—more particularly when the liquor amnii is scanty—so as to make its influence perceptible through the spinal column. At the same time, the more I look at such a picture of the condition of the child as is seen in Braune's plate already referred to, the more I am disposed to accept the doctrine that the fœtus is compacted with its surrounding fluid into a homogeneous medium, for the transmission of the general-contents-pressure to the zone of the presenting part that is meeting with resistance in the maternal canals. And, as I have indicated, I am prepared for a wide application of Lahs's explanation of the production of the flexion when I see how satisfactorily it explains the flexion in the case of this flaccid fœtus. Here the shape of the head is the perfect wedge-shape of the normal full-sized head; and if we place it in a canal and observe the angles formed by the tangents respectively of the sinciput and occiput in the girdle of contact with the perpendiculars to that zone, we see how under the general pressure from above the occiput must have advanced first because it was placed at the small or guiding angle.[1] And again, when we remember that the head was driven prematurely through a primiparous cervix, we know that just in these conditions of prematurity and primiparity the soft or elastic canals are most resistant and resilient. Hence as each pain relaxed, there would be a very distinct increase of the flexion as the part of the wall in contact with the occiput pushed it forward below the level, say, of the bi-parietal diameter, whilst the part of the wall in contact with the sinciput pressed it backwards at a higher level.

4. *The Effect of the Flexion.*—Everybody is agreed as to the answer to question 4, *Why* does it occur? It is to bring a smaller longitudinal diameter of the head into relation with the diameters of the canals through which it is moving. There are three longitudinal diameters, of which one is straight, the other two oblique. Their respective average measurements may be set down at 5 inches for the oblique occipito-mental, and 4½ inches for the straight occipito-frontal As for the sub-occipito-bregmatic, the length of it varies according as we carry the bregmatic extremity of it forward to the anterior part of the large fontanelle, when it measures 4 inches; or toward the posterior angle, when it measures 3½ inches; or still further backwards to a point in the sagittal suture, when it may measure little more than 3 inches in length. Hence, when a head enters the brim with the plane of the occipito-frontal diameter parallel to the plane of the brim, it presents a line which corresponds pretty closely to the usual measurement of the right oblique diameter of the pelvis, or 4½ inches. But as the flexion goes on and increases, the diameter that runs in the line of the right oblique of the pelvis becomes diminished to 4 inches, 3½ inches, or even to 3 inches in cases of marked resistance in the parturient passages. That the head will thus more easily traverse these canals—"that understands itself," as the Germans say.

ARTICLE II.—*Concerning the Operation of John Hunter in certain Cases of Impassable Stricture.* By J. A MACDOUGALL, M.D., F.R.C.S.E., Surgeon to the Cumberland Infirmary.

AT a late meeting of the Clinical Society of London, Mr Callender brought under the notice of its members some cases of impassable stricture in which Hunter's operation had been performed, and one of them which was under my care I have thought of sufficient interest thus to record.

W. T., æt. 47, a railway labourer, was, early in last May, admitted into the Cumberland Infirmary, suffering from stricture of the urethra and perineal fistula. His story was this:—Fifteen years ago he first suffered from symptoms of stricture, the result of a troublesome gonorrhœa. Five years later he sustained, by an accident, severe bruising of the perineum, and from that time he had much and increasing difficulty in making water. Ultimately his symptoms became so urgent that he was admitted to the hospital at Portsmouth the subject of complete retention.

---

[1] If the reader will draw a line on the head in Fig. 1 in the direction of the occipito-frontal diameter, and run two perpendicular lines from its two extremities, he will at once see that the occipital angle is much smaller than the frontal one.

Relief was at first obtained by the warm bath and by opium, for it was some days before an instrument could be introduced. Finally, perineal section was performed, and he left the hospital able to pass for himself a medium-sized catheter.

This he perseveringly continued to do until nearly a year ago, when it was stolen from him. From the date of its loss his old symptoms began to re-appear, and in a short time his difficulties were well-nigh as great as ever. While thus suffering he was much exposed to cold and wet, and his work was very laborious. Suddenly there came severe pain and swelling in his perineum, attended with almost complete retention, and this continued for several days. Then the swelling gave way externally, the urine escaped by more than one opening, and his relief was speedy and great. From time to time, however, fresh collections of matter formed, followed by fresh fistulæ, every one of which gave exit to urine, so that at last the quantity passed by the meatus passed guttatim. For five months, however, before his admission even this small quantity had stopped; *he had passed absolutely none by the penile urethra.*

On examination it was found that the perineum, the scrotum, the penis, and the textures over the pubes, nearly midway to the umbilicus, were dense, indurated, and largely œdematous. There existed in all nine fistulæ—four in the perineum, three in the upper and inner surface of the left thigh, and two above the pubes. The surroundings of all of them were more or less inflamed-looking, and from several there was purulent discharge. On proceeding to pass a catheter, so great was the infiltration of the penis that it was with considerable trouble the meatus could be found. Once entered, the instrument passed easily to within an inch of the root of the penis, where it was arrested. A No. 2 could with difficulty be got beyond this, and passed as far as the membranous portion, then it entered a narrow passage lying immediately to the left of the centre line, and along this it could be carried until its point was felt per rectum. There, however, it had deviated so much more that there could be no doubt it had entered a false passage Blocking this passage with a filiform bougie, I made, by introducing another, a most careful examination of the ordinary urethral line, but quite failed to find a way. This manœuvre was tried upon more than one occasion, and in the hands of both Mr Page, our consulting surgeon, and myself, small catheters and the fine steel instruments had fair and persistent trials, but always in vain.

The man's general condition was, moreover, unfavourable. He had been for many years a hard drinker; his heart's sounds were feeble and indistinct, his liver was markedly enlarged, and his urine was not only largely albuminous (nearly one-fourth), but microscopic examination showed the presence of waxy and fatty casts in considerable numbers.

Rest in bed, the occasional use of the warm bath, and a purely milk diet not only did his general state good, but it somewhat improved the local condition. The albumen in his urine diminished very considerably, the œdema became somewhat less, the inflammatory irritation subsided, and he made less complaint of the distressing scalding.

Still his discomforts and his suffering were great, and he was most anxious that something should be done for his relief.

After careful consideration I determined (and the grounds for this determination I give hereafter) that the operation of John Hunter promised most success. One great difficulty lay in the fact that the man had no command over his bladder when it contained above an ounce of urine. Then it simply flowed from him. With a view to overcome this, he had from time to time belladonna given as suppository, and he was instructed to exercise all the retaining power he could command. Thus he improved, for *gradually* the intervals lengthened, until on the morning of his operation he was able to retain water for fully *three* hours.

20th June.—Chloroform was given him, and an incision about three inches long, carried well *over* the pubes, was made in the linea alba. The textures were carefully divided until the upper surface of the pubic bone was bare and distinct. The aponeurosis between the recti was opened; the origin of the pyramidales divided by lateral incision, and the parts pulled apart. Reaching the peritoneum, and pushing it carefully back, the dissection was continued close behind the bone until the level of the bladder was reached. So contracted was it that its recognition was not easy; but for this difficulty I was prepared. Attaching a fine needle to an aspirator I thrust it into the viscus, which from its position seemed most likely to be the bladder, and at once withdrew fluid. This, upon boiling, not only became very speedily cloudy, but by its smell fully determined its character. Retaining the needle as a guide, there was no difficulty in making with a scalpel such an opening as admitted a No. 9 gum-elastic catheter. The parts were then carefully sponged with a strong carbolic solution, and as there was likely to be a certain flow of urine by the side of the catheter, as well as serum from the exposed surfaces, I introduced behind the pubes, in front of the bladder, a large sized glass drainage tube. Through this, by means of a pipette, considerable quantities of fluid were withdrawn during the first forty-eight hours after operation. A single deep stitch was placed in the upper part of the wound; an india-rubber tube was attached to the catheter, and carbolic dressing was applied. The india-rubber tube was ultimately arranged so as to act as a syphon, and during the eight or nine days the patient survived, it acted steadily and satisfactorily. Twenty-four hours after operation he had a most acute attack of bronchitis. From this, however, he rallied, and on the fourth day—spite some trouble that had occurred from the catheter slipping out of his bladder—he was hearty and well.

Already *four* of the fistulas had apparently closed. The œdema had disappeared from the pubes, and the penis and scrotum were much less implicated. He expressed himself as much relieved and more comfortable. Another four days passed satisfactorily; the local condition was immensely better; the wound was well-nigh healed; his temperature was 99°, his pulse normal, when, without warning, he was seized with most violent hæmatemesis. This continued more or less for some hours, and he sank exhausted on the ninth day.

A sectio revealed, near the pylorus and situated in the great curvature of the stomach, a large ulcer, in the bottom of which was the open mouth of a large artery. The viscus itself and the small bowel contained a considerable amount of blood. The heart and liver were large, one kidney was contracted and cirrhotic, the other was fatty. The bladder was very small, with much thickened walls, but there was no *cystitis*, and there was no trace of inflammatory irritation in the peritoneum or in the tissues of the pelvis.

A medium-sized catheter could now be passed through the stricture situated *anterior to the scrotum*, but when pushed steadily on in the urethral line it passed through the upper wall of the canal near to the bulb, and lay on a considerably higher level than the membranous portion. That portion was in fact lost in the midst of a dense cartilaginous mass, a tubular network alone marking its old line.

The life history and the postmortem dissection in the above case demonstrate it to have been truly one of impassable stricture. Comparatively rare such cases are—their rarity, I doubt not, largely due to the admirable teaching of the late Mr Syme. In dealing with them several methods present themselves, and as mayhap pointing the best lesson from the case narrated, I will refer shortly to those which came under consideration in connexion with it, and show my reasons for choosing the procedure I followed.

This much, however, I would premise, that the man's condition demanded imperatively that the operation undertaken was one likely to be followed by *immediate* benefit. Moreover, a *sine quâ non* was, that the urine should find such a channel as would quickly divert it from the multiple fistulæ.

The method of Wheelhouse, from its known efficacy in many apparently impassable strictures, suggested itself; but the existence of a tight contraction in the *penile* urethra, and the decided belief that the canal in great part of its membranous portion was obliterated, negatived its performance. The likelihood of Cock's operation proving beneficial was very carefully considered; but the existence of a large fistula (the largest of all) about an inch in front of the anus, just in the line of the apex of the prostate, and the existence of which had seemingly much to do with his distressing incontinence, gave rise to some doubt whether a *larger* opening in this situation would do much good.

The perineum, too, was dense and deep, and had the urethra been opened at this point it would, I imagine, have been very difficult to pass an instrument in a forward direction through it. Suppuration, moreover, had long gone on in the neighbourhood, and the anatomical relation of the apex might have been altered.

Such considerations made me uncertain as to its ultimate success—nay, even its immediate benefits, and it was passed over. Opening the urethra per rectum, as practised by Mr Furneaux Jordan, also claimed notice, but the suspected state of the urethra was against it. To succeed—and in certain cases it seems a most admirable and successful operation—the continuity of the urethra must be *speedily* restored, so as to allow the wound in the rectum to close. In the foregoing case this could not easily have been done, the existence of the anterior stricture offering an all but insuperable obstacle to the performance of "external urethrotomy," *i.e.*, the operation performed *without* a guide.

Failing all these, there remained the operation proposed by John Hunter. I was aware that this had been successfully performed by Mr Callender, in the first instance, in just such a case as it was originally meant to meet, where a suprapubic opening already existing, instruments could be passed upon the stricture from behind. He had, however, also dealt favourably with a case similar to my own, making by dissection the puncture of the bladder, and by means of it ultimately restoring the urethra. It was the issue of this case that largely determined my practice in that of W. T., and the comfort and relief it brought even in its early steps augured well for a good result. Had he not suffered the untoward accident of internal hæmorrhage—and, strangely enough, he never had previously *a symptom of gastric ulcer*—I believe he would have done well. That the urethra could have been restored I also believe, and even had we failed—and this doubt weighed with me greatly in selecting the operation—he would by means of a plugged canula have had ultimately much more command of his bladder than he possessed when the operation was done. The short time he survived served to show how much the local condition was benefited. The œdema was rapidly disappearing; the fistulæ were closing, and the irritable, raw condition of the skin, the result of the constant contact of urine, had disappeared. The anterior stricture, admitting previously with difficulty a No. 2 catheter, now allowed

No. 6 to pass, thus securing a thoroughly dependable guide to the point at which the urethra was lost. Mr Howse of Guy's has, adopting this operation, treated by means of it a case which could have been managed, I believe, by no other method, and has demonstrated that it has a greater and wider *rôle* than Hunter meant it to play.

The cases in which it is necessitated are assuredly most rare; still they will occur, and the possession of this way of meeting them adds somewhat to the respect and gratitude we owe John Hunter.

ARTICLE III.—*The Treatment of Knock-Knee.* By JOHN CHIENE, Surgeon to the Edinburgh Royal Infirmary.

(*Read before the Medico-Chirurgical Society of Edinburgh, 6th November* 1878.)

THE relief of aggravated cases of knock-knee or genu-valgum by operation on the deformed bone has lately occupied the attention of surgeons. Cases of knock-knee, after dividing by tenotomy the biceps tendon and the shortened ilio-femoral band, used to be handed over to the care of mechanicians, and very various and ingenious forms of apparatus were used to relieve the deformity. In slight cases these means were often efficacious in arresting further deformity. As a general rule, in bad cases little good was done; and there can be little doubt that during the last few years many cases have been remedied by operation, in which in former years no attempt would have been made to give relief, or if attempted by mechanical appliances, no relief would follow.

Before considering the different methods of operation which have been recommended for the relief of knock-knee, it will be well to consider shortly the pathology of the affection.

Genu-valgum may in rare cases be a congenital deformity. I have never seen such a case. In all cases that I have noted the deformity has appeared after the patient began to walk. The onset of the inbending at the knee-joint is generally to be traced to some weakening cause, either constitutional in its nature as rickets, or to some febrile state such as measles. The exception to this rule which I have observed is one which I may term "traumatic knock-knee." In it an unreduced dislocation outwards of the patella gave rise necessarily to a change in direction in the axis of the extensors; these muscles, pulling on the tubercle of the tibia at an angle for a period of four years caused a tilting outwards of the tibia, and an in-kneed or knock-kneed condition.

In the normal limb the transverse axis of the knee-joint is horizontal. The femur slopes downwards and inwards; the tibia is vertical; there is therefore in the healthy femur an elongation more or less marked of the internal condyle. There is in the normal limb an angle inwards at the knee-joint. If the patient is weakly from any cause at the time of life when he or she begins to walk, or if weakened during the period of life when the bones are still immature and inclined to bend, then the weight of the body acting on a weakened limb will cause a bending of the limb at its weakest part. The osseous column may give way under the weight; the femur or tibia may bend forwards as in rickets, or outwards as in the bandy-legged child; or if the ligamentous structures of the knee-joint are weak the result will be the disease termed genu-valgum or knock-knee. In consequence of the normal angle inwards at the knee-joint it will be evident that there will be an excessive strain on the internal lateral ligament of the joint during the act of walking. If the ligament is unable to bear the strain, it will be stretched and still further weakened, allowing of an inbending at the knee in excess of the normal angle. Along with this stretching of the internal lateral ligament the pressure will be increased between the external condyle of the femur and the outer condyle of the tibia. As a result there will be an arrest of development of the growth of the external condyle of the femur, and an increased growth of the internal condyle of the same bone. The arrest of growth of the external condyle has an analogue in the shortened foot of the Chinese lady. Mr Symington carefully described last summer in this Society a very interesting preparation, illustrating the fact that absence of normal pressure encourages increased growth of bone. He showed the bones of an elbow-joint in which there had occurred a dislocation forwards of the radius. This had been unreduced, and as a result, and in consequence of its removal from the opposing surface of the humerus, the radius had grown upwards, its neck being greatly lengthened. Coincident with the stretching of the internal lateral ligament there will be shortening of the external lateral ligament, of the ilio-femoral fascial band, and of the biceps muscle. The change in direction of the tibia throws the weight of the body on the inner edge of the foot, the structures then give way, the patient becomes splay-footed. That the excessive growth of the internal condyle is only in a downward direction, and that there is no increase in the antero-posterior breadth of the condyle, is evident from the fact that, if in a case of double knock-knee, the patient is laid on his back, and the limbs forcibly bent at the knee-joint, all deformity will disappear, the internal condyles of the femora and the inner malleoli of the tibiæ touch one another, an impossibility in the extended position of the limbs. In other words, in the flexed position the tibiæ are parallel to the longitudinal axis of the body, while in the extended position they are at an angle with the longitudinal axis. The alterations in the normal growth of the condyles, elongation of the internal condyle where pressure is diminished, shortening of the external condyle where pressure is increased, was beautifully shown in the traumatic case to which I have already alluded; in it, undoubtedly, the pressure between the tibia and external condyle was increased, while between the tibia and internal condyle the pressure was diminished. This abnormal condition was kept up for a period of four years, and the result was an aggravated case of knock-knee, which was relieved by operation.

To sum up: 1st, Knock-knee is not a congenital deformity. 2d, It is the result of weakness of the ligamentous structures around the knee-joint generally, relatively to the weight of the body. 3d, The internal lateral ligament is not specially weak, although it is stretched in consequence of the deformity. 4th, Knock-knee is an aggravation of the normal angle inwards at the knee-joint. 5th, It is not necessarily associated with rickets. 6th, In rare cases it may be due to a traumatic origin; as, for example, an unreduced dislocation of the patella outwards. 7th, One or both limbs may be affected. With these introductory remarks I may now allude to the different methods that have been adopted by surgeons to cure the deformity. The first operation which I saw was performed by Mr Annandale; in it he removed a wedge-shaped portion of bone from the condyles. Mr Lister then operated on two cases, in 1876, by removing a wedge-shaped portion of bone from the lower end of the femur; and I believe in Germany surgeons have improved the deformity by removing a wedge from the tibia, while others have operated on both the femur and the tibia. If the essential feature, as I have tried to show, is elongation of the internal condyle, there can be no doubt that the appearance of the paper of Dr Ogston, of Aberdeen, in the *Edinburgh Medical Journal* in March 1877, threw a new light on the best method of relieving the deformity. He recognised and utilized the fact that the elongated internal condyle is, as he terms it, the "essence of the deformity," and performed an operation by which, after making a small opening through which he introduced the saw and separated the condyle from the shaft, and then, by pressing the foot inwards, he displaced the condyle upwards, curing the deformity. In April 1877 an aggravated case occurred in the hospital, and in it I at first intended to perform Ogston's operation. The objections seemed to be the necessity for opening the knee-joint—a procedure which, if possible, should be avoided; however careful we may be in the antiseptic management of the case, mistakes may occur, putrefactive inflammation may set in, and the risk will be increased. I also feared that in sawing off the condyle the integrity of the crucial ligaments, on which the rigidity of the joint depends, might be interfered with.

If there is elongation of the condyle it will be necessary either to separate it from the shaft, as Ogston does, in order to displace it upwards, or it will be necessary to remove a wedge-shaped portion of bone at its junction with the shaft or from its substance, in order to bend it upwards. Mr Reeve has lately described an operation in which he passes, as far as I can understand it, a chisel into the substance of the condyle, and *divides* the cancellated tissue down to the cartilages, and then forcibly straightens the limb. I have seen Mr Annandale operate by this method. The criticism I offer is that, if it is necessary to remedy elongation, either to displace or bend the condyle upwards, that this cannot be done satisfactorily in aggravated cases by Mr Reeve's method, because no bone is removed, and the condyle is not separated from its connexions. The object that I had in view was, if possible, to displace the condyle upwards: 1st, without opening into the joint; 2d, without separating the condyle; 3d, with as little interference as possible with the epiphysis and the crucial ligaments of the joint. I hoped to do this, in young persons at any rate, by removing a wedge from the base of the condyle, and then by bending the narrow neck of bone still attaching the condyle to the shaft to displace the condyle upwards. It is but right to add, that Dr M'Ewen of Glasgow described a method of operation (in the *Lancet*, March 1878) precisely similar to the one I have now to describe. He operated on his first case a few weeks after my first operation. We were evidently working at the same thing with the same object in view at the same time, each ignorant of what the other was doing. I have now operated on six patients, seven limbs, and in only one, a boy aged nineteen, has there been a crack indicating fracture when the limb was straightened; in the others, aged fourteen, five, ten, fourteen, and six years respectively, the bending without fracture that I expected took place. In five the joint was not opened into; in one I cannot be sure that this did not occur, because in it there was an appearance of an oily fluid in the wound resembling synovia; of this, however, I am by no means confident. The wound healed in all the cases under one month; in none of the cases has there been any stiffness of the knee-joint. From the results of my cases I am of opinion that the operation, as performed by Dr M'Ewen and myself, is sufficient to restore the condyle to its normal position; in other words, to restore the transverse axis of the knee-joint to its normal horizontal position, namely, at right angles to the long axis of the body. When, however, there is deformity due to rickets, curving of the femur or tibia, then it will be necessary to attack these bones in their shafts, and remove a wedge-shaped portion of bone from the bone or bones affected. The objection I have to this procedure is, that the osseous rigidity of the limb as a whole is interfered with, and the difficulties of the after-treatment will be greatly increased. These operations should therefore, if possible, be avoided; they are not, in my opinion, necessary to counteract the deformity when this is due to elongation of the internal condyle.

It only remains to describe the operation: Find the tubercle on the internal condyle to which the long tendon of the adductor magnus is attached; an incision, two to three inches in length, is made over the tubercle in the long axis of the limb The incision commences half an inch below the tubercle, and is carried upwards for a sufficient distance. After division of the skin and fascia, the tendon of the adductor is exposed. Pass in front of this tendon between it and the fibres of the vastus internus. The bone covered by periosteum is exposed, and the superior internal articular artery is seen and divided, after passing a double ligature below it and tying the vessel. The periosteum is then divided crucially and turned aside, exposing the bone. With the chisel and mallet a wedge-shaped portion of bone is removed from the base of the condyle immediately above the tubercle of attachment of the adductor magnus. The breadth of the wedge will depend on the amount of the deformity. The long axis of the wedge runs downwards and outwards towards the notch between the condyles. The wedge is at a higher level than the epiphysial line. The apex of the wedge may touch the line. After a sufficient amount of bone is removed the tibia is grasped at its lower extremity, and by pressure inwards the neck of bone attaching the condyle to the femur is bent and the limb straightened. A catgut drain is then stitched to the bottom of the wound to the periosteum, the lips of the wound are brought together by horse-hair, the limb is placed in a box-splint, and a light weight attached to the foot by the extension-pulley to steady the limb. The operation is performed antiseptically.

In conclusion, I have thought it right to bring this subject before the Society—1st, because I have often been asked to describe the operation more fully than I did in July 1877, when I showed to this Society the first case on which I operated; 2d, because I have had more extended experience, since that time, of the operation; 3d, because I desire to express my conviction that it is to Dr Ogston that we owe a real advance in the true principle of curing knock-knee, namely, by attacking the elongated internal condyle; and, 4th, because the subject is well worthy of discussion. We have, perhaps, not yet found out the best method of operating, although I think there can be little doubt that, since the appearance of Ogston's paper, we are on the right track towards a successful treatment of aggravated cases of the common and distressing malady termed knock-knee or genu-valgum.

ARTICLE IV.—*Clinical Remarks on Gleet: its Causes and Treatment.* By J. C. OGILVIE WILL, M.D., Surgeon to the Royal Infirmary, Aberdeen.

(Delivered in the Aberdeen Royal Infirmary.)

GENTLEMEN, the patient before you presented himself in the admission-room a few days since complaining of gleet. He told us that upwards of a year ago he had contracted gonorrhœa, the symptoms of which were pretty acute, but that under treatment the discharge gradually became less and less until the whole that remained was only sufficient to furnish a morning drop at the meatus, the lips of which he usually found glued together on awakening. Notwithstanding prolonged treatment, he is now in exactly the same condition as he was many months ago; the drop is still apparent in the morning, and after carefully squeezing the canal from behind forwards, we succeed in causing the emission of a single drop of fluid partaking more of the character of mucus than pus, which is the characteristic feature of the discharge in cases of gleet. With the exception of the presence of a few filaments, made up of pus cells cemented together by mucus, in that portion of urine passed at the commencement of the urinary act, the patient presents no other symptoms.

The history of this patient is a very common one, and the cure of such cases is only too often a matter of extreme difficulty; and as cases of obstinate gleet are certain to come under your notice at an early period of your professional life, I propose devoting a few moments of our lecture hour to the consideration of the causes which may lead to the continuance of slight discharge after the major symptoms of venereal urethritis have disappeared; to a demonstration of the mode of examination necessary for the discovery of any local lesion which our patient may have in some part of his urethra; and to the treatment suitable for cases of gleet. The causes of gleet may be either constitutional or local.

In some cases we find that the patient is more in need of treatment than his urethra; that the continuance of the discharge is due to some taint of the constitution, the patient being of the strumous, gouty, or rheumatic diathesis, or that he is anæmic, ill-fed, or given to excesses—sexual or vinous. In such cases we must rely more upon constitutional than on local measures; we must endeavour to correct or modify the vitiated state of the system by the administration of appropriate remedies, and by the observance of all hygienic measures calculated to brace up and strengthen the vital powers. This view of the cause of prolonged gleet is only too frequently lost sight of, the whole energy of the treatment being directed to the urethra,—a course which, instead of being attended by favourable results, tends to prolong and intensify the evil it is used to combat, for excess of local treatment is a not uncommon factor in the production of slight, long-continued discharge. In proof of the correctness of the last statement, I may tell you that I have often found patients who had suffered from gleet for long, and who had been "worrying" their urethral passages with injections containing first one and then another astringent, and who had tried all sorts of nostrums recommended by those to whom they had confided their troubles, almost completely cured by simply abstaining from all treatment for a week.

It is unnecessary to enter upon the treatment required by those whose gleets are due to diatheses, but I would simply remark that in the strumous and broken down, cod-liver oil emulsion, iron, nickel, and other tonics will be found of the greatest use, while the beneficial effects of stimulants—the use of which during the acute stage of venereal urethritis is to be absolutely avoided—are frequently most manifest.

Certain drugs are supposed to exert a specific influence upon gleet, of which the most noteworthy are cantharides and ergot; either of these may be combined with iron, and of their virtues I have no doubt. A mixture of tincture of perchloride of iron and liquid extract of ergot, although chemically incompatible, is a most valuable and successful adjunct to the treatment of gleet.

In our patient's case, however, none of the causes mentioned can be that to which the discharge owes its persistence, therefore we must look for a local source. The local causes of gleet are—1. Slight or commencing stricture; 2. Inflamed mucous patches; 3. Inflammation of the glands and follicles of the urethra, especially of the lacuna magna; 4. Follicular prostatitis. There is a 5th, viz., Congestion of the prostate; but it, as a rule, is not of venereal origin, but results from masturbation, and therefore does not concern us to-day. Before examining our patient's urethra for the purpose of ascertaining to what his gleet is due, let me say a few words about each of the four causes mentioned:—

I. *Slight or Commencing Stricture.*—This is a very common cause of gleet, and gleet is also a very common symptom of stricture, for as Otis, an American surgeon, says—"Gleet is the signal which nature hangs out to call attention to the fact that the urethra is strictured in some part of its course." The gleet from stricture comes from that part of the canal lying directly behind the contraction, where inflammation to a greater or lesser degree is always present, and the discharge must continue, and will increase, so long as the stricture remains untreated.

II. *Inflamed Mucous Patches.*—The mucous membrane lining the urethra, instead of returning to its normal condition after the cessation of the acute symptoms of inflammation, may present, when viewed with the endoscope, circumscribed patches in which inflammatory changes are still taking place. These patches are either of a dark or purplish-red colour surrounded by normal mucous membrane, or pale yellow, or grayish; in the former, congestion is the best marked feature; in the latter, induration predominates. Their most common seats are the fossa navicularis and the bulb of the urethra.

III. *Inflammation of the glands and follicles* may be, and often is, a cause of gleet, but in the great majority of cases inflammation of these structures is so closely allied to, and so intimately connected with, inflamed mucous patches that, with one exception, they require no special notice. The exception is the lacuna magna, which, as you doubtless know, lies on the roof of the urethra in the fossa navicularis. It is too large to become obliterated or sealed by inflammation, as the lesser follicles do; and it frequently remains inflamed long after inflammation has ceased elsewhere. The mere mention of the fact that this is a not very uncommon cause of gleet, will lead you in the right direction when you are at a loss to find a satisfactory explanation of prolonged discharge. Division of the offending structure, which can be readily effected, will speedily put an end to its interference with the cure of the affection.

IV. *Follicular prostatitis* is the result of the spread of gonorrhœal inflammation backwards, and although, with the exception of *very* slight discharge, it is, as a rule, symptomless, it is unfortunately very rebellious to treatment. In some exceptional cases, where the deeper parts of the gland are affected, the patient's present symptoms resembling those of vesical calculus, viz., pain and heat along the whole urethra, most marked at the neck of the bladder after urination, pain at the point of the penis, a desire to squeeze the prepuce, and a feeling of dragging in the perineum. The urinary act is often interrupted, and is followed by dribbling, and upon rectal examination acute pain is complained of. The history and the symptoms elicited during rectal examination are diagnostic.

Having now discussed the different lesions on which gleet may depend, let us next endeavour to ascertain to which of them we may refer our patient's case. Two methods of examination are open to us, viz., the use of the endoscope, and urethral exploration by means of a bougie. Of the first I shall simply endorse what has been well said by a very eminent authority, Sir Henry Thompson—"If a man has a tolerably practised hand, and a fair share of intelligence, I do not think that he will gain very much from the use of the endoscope; if he has not, I do not think that he will gain anything at all." From this you will understand that I am not of opinion that the endoscope should be relied on as the means of diagnosis in gleet; if it were an instrument whose use was unattended by difficulty, and if with it we were to see the interior of the urethra about *half* as clearly as was expected when it was first brought out, then I should say, rely upon it as *the* means, but as the endoscope partakes more of the character of a scientific toy, requiring great dexterity for its successful employment, than of a useful, practical appliance, and as failure often attends one's best efforts when using it, I think that for all really practical purposes it may very safely be put to one side.

In the instrument which I show you we possess a sure and certain guide to correct diagnosis. It is what is known as an acorn bougie, the name being derived from the appearance presented by its head, which bears a close resemblance to an acorn. The shaft is long, slender, and flexible, and bears on its distal extremity the bulbous body alluded to; it is graduated from heel to point, so that a glance at the figures marked on the shaft shows how far the instrument has passed. By the aid of this instrument we are enabled to prove the presence and situation of stricture, not only of well-marked contraction, but of slight thickenings of the mucous membrane, or commencing stricture; and by using acorn bougies of different sizes, to ascertain the calibre and length of the obstruction, to decide whether the urethra is, or is not, the seat of inflamed mucous patches, and when present, to show their position, character, and extent; and to determine in any given case whether the prostate is involved in the production of the gleet. The value of such an instrument in cases of long-standing discharge can, therefore, be hardly over-estimated.

In exploring a urethra with this instrument you must bear in mind the different local causes of gleet, then take one the size of whose head corresponds to that of the meatus, anoint it with carbolic oil to insure its asepticism, and pass it gently along the urethra. If a stricture be present the instrument will be arrested in its course towards the bladder; if an inflamed mucous patch, then the patient will complain of pain while the acorn rests on that part of the urethra which is the seat of inflammation, and the pain will cease as soon as the bulbous head has reached healthy mucous membrane, for the shaft, being of so much smaller size than the head, will not press upon the affected part, therefore the symptom pain will not be elicited. If the prostate be involved, the instrument will pass without pain or obstruction until it is about to enter the membranous portion of the urethra, when it will perhaps be arrested by spasm; and when the head of the bougie is passing through the prostatic urethra, acute pain will be complained of, which will cease when the head of the instrument enters the bladder.

I shall now pass a full-sized acorn bougie on our patient, and you will have an opportunity of observing its behaviour (*demonstration*).

You saw that the instrument passed for a considerable distance without any complaint on the part of the patient, but that when its head rested in the region of the bulb he complained of pain; that when it was pushed a little onwards, but short of entering the bladder, he said that pain had ceased; that while afterwards passing through the prostatic urethra, it did not cause pain; and that, during the slow withdrawal of the instrument, its presence occasioned pain at the exact spot where it had previously done so during its introduction. I conclude, therefore, that the patient is suffering from an inflamed mucous patch at the bulb, and that the discharge is due to this lesion, and I believe that the patch belongs to the congested and not to the indurated variety, as the instrument seemed to pass smoothly when in contact with the affected surface, and did not impart a feeling of roughness or unevenness to my hand, which it would have done had the patch been rough and indurated. Let us now consider what methods of treatment may be followed for the cure of this case. A considerable number of different modes have been proposed. I shall, however, mention only a few, but sufficient for the relief of any case of gleet due to the presence of inflamed mucous patch congested or indurated.

The first means to which I shall allude is, so far as I have seen, the best of all; it is the passage once or twice a week of cold, well-oiled, metallic bougie combined with the continued administration of cantharides or ergot.

According to Van Buren, the good effects resulting from the use of such an instrument may be ascribed to "the sensibility of the canal becoming blunted by contact with the instrument, its irritability being overcome by the slight distension to which it is subjected, while the tonic effect of the cold metal is also probably a factor in producing the good effect."

Whatever may be the correct explanation of its mode of action, the good effects attending the use of a metallic bougie are undoubted; but if you adopt this method you must bear one fact in mind—the instrument must be of sufficient size, for unless as large a bougie as the meatus will admit is used, almost certain failure will be the result. You must not conclude that, because a No. 12 (English scale) bougie is the largest size of bougie supplied by instrument-makers in sets of bougies, No. 12 is the maximum capacity of the male urethra; if you do, you will fall into a grievous error. I here show you two instruments—No. 12 and No. 19—and I may tell you that the latter, elephantine though it may seem, is in reality much nearer the average size of the human male urethra than the former. Now, if our object be the complete distension of the urethral walls—which I hold that it should be—it can only be attained by the introduction of as large an instrument as the passage will admit; if we employ a No. 12 when the capacity of the urethra is No. 20, little, probably no good will result from the treatment, whereas much benefit would accrue from the use of an instrument of sufficient relative size.

If the relative size of the urethra and the instruments employed has any bearing on the treatment of gleet from mucous patches, of what infinite importance must it be when considered in relation to gleet from stricture! For example, take a patient suffering from chronic discharge arising from slight urethral stricture; you pass say a No. 12, and encounter no obstacle; you then say "There is no stricture here," but your conclusion may be utterly fallacious, for that man's urethra may be strictured, and the degree of contraction may be sufficient not only to prolong gleet, but to encroach upon the calibre of his canal to a not inconsiderable extent. The capacity of his urethra may be, say 19—a not uncommon one—No. 12 passes, but No. 13 is arrested, the degree of stricture is represented by the difference between Nos. 12 and 19, an amount of contraction of no mean importance, the presence of which will certainly cause the continuance of discharge. Without going further into the matter, I would simply impress upon you the axiom, that, in treating gleet arising from inflamed mucous patches or stricture by means of a bougie, you should employ in each individual case as large an instrument as will pass, and that you should not rest content until you are able to pass into the bladder as large an instrument as the meatus will admit, for the meatus being the narrowest part of the canal, any instrument passing through it should traverse the whole urethra with ease. If the instrument is arrested in its course the obstacle is not a natural, but a pathological one, whose removal is called for.

I shall now pass on to another mode of treatment, which you will find a useful one combined with that just mentioned, or by itself. It is the topical application of astringents, which may be carried out in various ways, *e.g.*, by solutions applied by means of a deep urethral injector, by soluble bougies, or by a solid bougie coated with an astringent ointment. In applying an astringent solution you make use of such an instrument as the one I now show you—Dick's injector—which consists of a long tube ending in a bulbous point, perforated by numerous openings; the lotion is contained in this india-rubber bag, which, after being charged, is fitted on to the proximal extremity of the instrument, and by compressing it the fluid is impelled along the tube, from the point of which it issues in the form of spray. Numerous other instruments have been suggested, such as this silver one, but the injector just described is cheap, simple, and effective. Nitrate of silver is the astringent most commonly employed, the strength of the solution varying from ten to thirty grains to the ounce of distilled water, according to the effect desired and the character of the lesion, the weaker being used where congestion predominates, the stronger where induration prevails.

Before using the injector the patient should make water, the instrument is then passed down the urethra, so that the perforated portion of the tube may lie in contact with the part of the canal where the acorn bougie has previously shown the presence of inflamed mucous membrane. The injection should now be made, and the instrument withdrawn. The patient should, if possible, retain his water for some hours afterwards, and take as much rest as possible, while alkaline and diluent drinks may be prescribed to lessen the acidity of his urine. During the next few days the discharge will increase in quantity and in purulence, but this comparatively copious discharge will soon disappear, and with it the pre-existing gleety one. Not unfrequently, however, a second injection is called for, and in some cases the administration of antiblenorrhagic remedies will prove of service. Soluble bougies, containing astringents, are frequently useful; they are passed into the canal, where they dissolve, and are kept *in situ* by some retentive appliance fastened round the glans.

If you make use of them, direct the patient to pass one each night at bedtime. There is, however, a simpler mode than either of those alluded to, and one from which I have got the best results, and as I propose using it in this case you will have an opportunity of seeing how to apply an astringent without the aid of any special instrument. I have here an ordinary No. 8 metallic bougie, the extremity of which I have coated with an ointment consisting of sulphate of copper, wax, and lard; its exact composition you may see on the board, viz., ℞ Cupri sulphatis, adipis āā ʒiss., ceræ albæ ℥i.

This ointment, on account of the large proportion of wax which it contains, is hard, and requires a considerable degree of heat to dissolve it, therefore if the bougie be passed quickly through the unaffected parts of the urethra it will reach the affected part without the ointment being rubbed off. Before using it, it should be well oiled, and you see that, although the point of the instrument is covered with ointment, it takes the oil on well. Now take it and pass it thus (*demonstration*) to the point where we discovered the patch; we shall let it rest there for a few minutes, and then withdraw it, when the affected part will be left with an astringent coating derived from the bougie. You may, of course, employ other astringents in a like manner, but the one I have made use of, the formula for which I found in Bumstead's work on the Venereal, answers admirably, and leaves little to be desired. Should your experience be at all similar to mine, you will find that this mode of applying astringents, conjoined with the occasional passage of a large metallic bougie, is a most trustworthy and successful means of allaying the symptoms to which mucous patches give rise.

The only other method of treatment to which I shall direct your attention is that known as isolation, which, although long known and practised, had received but little notice in this country in recent years, but which has lately been strongly upheld by Mr Chiene, of Edinburgh.

Isolation is based upon the fact that, if friction of inflamed surfaces can be prevented, the healing process will be accelerated; therefore, if we can in any way apply a protective covering to an inflamed mucous patch, friction will be overcome, and the excoriation will take on healthy action. To this end various injections containing insoluble powder, such as calamine and bismuth, have been employed, a coating of the powder being left upon the affected surface. Such injections often did good, but little lumps of the substance employed, collecting in the canal, created irritation, and, although much used by Ricord and other French surgeons, this mode has not found favour in Britain. Mr Chiene has, however, introduced a substance which is not only free from the drawbacks referred to, but which possesses advantages rendering it superior to any of the previously used medicaments. It is kaolin or clay earth, and the mode of using it is this—Make, with water, or oil, as thick a paste as will run; fill the urethra with this by means of a common urethral syringe, then place a little bit of lint over the meatus, and retain it there. The injection is to be allowed to remain within the urethra until the next urinary act, after which the process is to be repeated, and so on. The result is, that friction of the affected surface is absolutely prevented, healing takes place, and the discharge ceases. You will, I believe, find one or other of the methods of treatment described sufficient for the cure of any case of gleet arising from the causes mentioned; and, as time will not permit me to say more upon this subject, the consideration of the treatment suitable for prostatic gleet must be deferred until another opportunity presents itself.

ARTICLE V.—*A Description of Tarnier's Forceps.* By ROBERT BELL, M.D., F.F.P.S.G., etc.; Physician to the Glasgow Institution for Diseases of Women.

(*Read before the Edinburgh Obstetrical Society,* 11*th December* 1878.)

MR PRESIDENT AND GENTLEMEN,—I have the honour of bringing under your notice this evening what I consider to be the most perfect form of midwifery forceps yet introduced to the profession. It is the most perfect instrument, 1*st*, because we can procure delivery by its means with a much less expenditure of force than by the ordinary instrument; 2*d*, because we can ascertain in what direction the force ought to be applied; and 3*d*, and most important, because it allows the head to rotate freely in its progress through the pelvis, and thus allows of the head accommodating itself to the peculiarities of the pelvis, and in this way imitating nature in each individual case. But while I hold it is the most scientific instrument of the kind we possess, it appears to me quite capable of undergoing many improvements in its manufacture before it can be called the *beau ideal* of what such an instrument ought to be. At the same time, my opinion is that it will be most difficult to improve upon the principle involved in its construction. It must be admitted, however, that the manufacturer, with a little pains, could produce a much less formidable looking apparatus, and a much more elegant piece of workmanship without in any way interfering with its strength (a quality, by the way, which all midwifery instruments should never lack). I must confess, when the forceps first came under my own observation, the impression they made upon me was anything but a favourable one; indeed, I determined there and then that I would not even purchase them as a curiosity—they appeared to me so very formidable and unwieldy. This, however, was only my state of mind before I had seen them applied, and had obtained a correct knowledge of their simplicity and eminent adaptability to the purposes for which they are intended. M. Tarnier very kindly met me at his hospital in Paris, and not only demonstrated to me the simplicity of his forceps, but the wonderful facility with which they can be applied, and the great advantages they possess over every other kind of midwifery forceps. But, before endeavouring to demonstrate the various merits which the instruments of Tarnier most undoubtedly can lay claim to, with your permission I will make one or two remarks on the forceps in ordinary use.

It must be confessed that the long forceps in ordinary use are not the most satisfactory instrument that could be wished; indeed, the very reverse is the case, and it does not require a very long acquaintance with them to convince one of that fact. If we look at the anatomical construction of the parts concerned in labour, when we remember that the axis of the inlet of the pelvis is represented by a line drawn from the centre of the plane of the inlet downwards and backwards through the middle of the cervix, we cannot but perceive how inapplicable the long straight forceps are when the head is obstructed at the brim, and how dangerous even the long curved forceps are. Let us look for a moment at the long straight forceps, and we see that it is impossible to apply them without pushing back the perineum to a most dangerous extent, and even when one has been successful in getting a hold of the child's head the catch is very insecure, and there is, therefore, very terrible danger of the blades slipping and of the horrible consequences of such an accident. Of course, when it is possible to deliver without any such untoward results arising, the force employed in bringing down the head must be very much less than when a curved instrument is used, because we exert the force in the direction of the axis of the inlet, but then, as we all know, it is next to an impossibility to get a sufficiently secure hold when the head is at the brim with the long straight forceps, so that practically they are useless in such circumstances. We must then have recourse to forceps which have more or less of a curve. By this means we certainly obtain a much more secure hold of the head, but then there is the drawback that we are unable to pull in the direction of the axis of the inlet, so that it is requisite to bring more force into play to procure the same results; and as this extra force is brought to bear, in fact is expended, on the head of the child and soft parts of the mother, and that to their hurt, it is easy to understand how desirable it would be to have an instrument which would do away with this unnecessary expenditure of force and its baneful consequences. If the curve is slight, then, of course, the traction power will be proportionately less than if the curve were greater; but then, if the curve is slight, there is the danger of the forceps slipping, besides the greater difficulty in applying them, and the enormous danger to the perineum. If the curve is greater, there is certainly procured a firmer hold of the head, but then consider how much more force it is necessary to spend in procuring delivery; indeed, the curve in many instruments is so great that a much larger amount of force is actually employed in doing mischief to the soft parts than is used to effect delivery. What mischief is done to the bladder in such cases no one can estimate, and how many cases of vesico-vaginal fistula have their origin in such circumstances no one ever will know. The fact of the matter is that long forceps always do mischief. If the curve is slight the perineum is in danger; if more decided then the bladder is in jeopardy. But these are not the only drawbacks of the ordinary long forceps. They do not permit of rotation of the head, or allow it to accommodate itself to the peculiarities in the shape of the pelvis. One is certainly recommended to "humour" the forceps, and thus allow the head to glide through the passage in the easiest manner possible; but when a man is engaged with a stiff forceps case, when he is undergoing a course, perhaps a brief one, of most profuse diaphoresis, when he is in abject horror in case he is going to be baffled, and when he is, from a faulty construction of the instrument, actually *compelled* to use double the amount of force that is really necessary to deliver the child, I conclude that he is not in the humour to "humour" the forceps.

Then, again, if the blades of the instrument have a curve sufficient to enable one to get a secure hold of the head at the brim, they are entirely useless as a means of rotating the head, nor are they able to rotate with it in its progress through the parts. If rotation were insisted on, then the consequence would be a ploughing up of the perineum by the blades. So much for the ordinary long forceps. Let us now look at the instruments of Tarnier, and I trust, gentlemen, you will bear with me when I endeavour to demonstrate the great advantages which are claimed for them. I need hardly say that they have received many modifications since Tarnier first introduced them, but I have the pleasure of showing to you the most recent model. What first suggested the idea of the instruments now before you was the employment of the traction power in the ordinary instruments by means of tape passed through the fenestra, this being used as the tractor, while the handles served as compressors. By this means traction is brought to bear on the blades without the intervening powerful lever which exists between the blades and the handles when the latter are used as tractors. In this way, of course, the pull is direct upon the child's head, and the handles merely act as indicators of the course in which the child's head is travelling, while it has every freedom to follow whatever course is most easy for it to traverse, freedom to rotate being thus given to it. This, then, is the grand principle of Tarnier's forceps. The handles serve to place the blades in position, and afterwards act as indicators of the axis in which the head is moving, while all the force that is necessary to aid delivery is brought to bear on the child's head directly and solely. It is allowed, nay, encouraged, to take the easiest course it can pursue, and we can always tell in what direction to pull by the position which the handles occupy. Force is never wasted on the soft parts of the mother, and I can assure you, gentlemen, the fatigue endured when Tarnier's forceps are used is nothing compared to that one undergoes when the ordinary long forceps are employed.

ARTICLE VI.—*On a New Form of Section-Knife especially adapted to the Cutting of Large Sections.* By BRYAN CHARLES WALLER, M.D.

SINCE the introduction of the freezing microtome, a great impulse has been given to the study of microscopic anatomy and pathology by the increased facilities which this instrument affords for the cutting of large and perfect sections. The thinness and regularity of sections so made is something surprising, and, but a few years ago, would have been regarded as well-nigh unattainable. Indeed, there appears to be scarcely any limit to their size and perfection, save the capacity of the microtome and the skill of the operator. Whole organs, such as the kidney, spleen, and the brains of small animals, can by this method be exhibited continuously, thus affording a far truer idea of the relations of their several parts than could possibly be arrived at from the study of small detached sections. Few tissues, if properly prepared by judicious hardening, and properly imbedded in suitable media, such as gum or sugar solution, will refuse to behave in a satisfactory manner, and to yield results alike beautiful and trustworthy. In fact, with ordinary intelligence and dexterity, nothing is easier than to master the art of using the smaller microtomes, namely, those with a well anything under an inch in diameter,—a large stout knife, straight in the edge and tolerably sharp, and a little patience and perseverance, being all the essentials for the execution of excellent work.

It is only with the larger microtomes—as, for example, those with a well two inches in diameter—that any difficulty is experienced. With these it requires much patience and practice, conjoined with no inconsiderable amount of manual labour, to cut sections of equal thickness throughout, and of undisturbed continuity; since, on the one hand, the histologist is obliged to avoid the Scylla of over-thickness, and, on the other, the Charybdis of too great flimsiness—owing to which the sections but too often present an appearance as tattered and torn as the habiliments of the man in the nursery rhyme. The danger of falling into these extremes increases with the size of the sections; and, moreover, the difficulty of preserving an even pressure on the blade of the knife, as it cuts its way through a large area of tissue, leads to an unevenness of surface, which often makes the section appear, under a high power, more like a tract of rolling country than a flat surface, and thus not only disfigures it as a microscopic object, but seriously impairs its practical usefulness. Again, the sharp square edge of the back of the section-knife is apt, after a time, to cut the thumb of the left hand, which is necessarily placed on the back of the blade, in pushing the edge through the hard frozen gum and tissue. This might, doubtless, be avoided by bevelling the edge round; but such an expedient appears undesirable for several reasons: *firstly*, because the rounded surface would not afford so firm a hold;

secondly, because, if the side of the back which is uppermost in cutting were rounded the whole way down, a large section would be more prone to be damaged by slipping over it; and, *thirdly*, because a knife so made would be useless to a left-handed man. By the expenditure of care and pains, these difficulties can, no doubt, for the most part, be surmounted; and, in the course of an extended research, which involved the cutting of many thousands of sections, practice enabled the author to produce large sections with tolerable speed and certainty by the use of the long, heavy section-knife manufactured by Gardner, South Bridge, Edinburgh, which has, up to this time, been by far the most useful of the various models commonly procurable. Still, for dense organs such as the kidney—and, indeed, for all kinds of tissues whether hard or soft—he had always the feeling that it was at best but a makeshift, destined presently to give place to some more perfect contrivance. This feeling was strengthened by noticing the difficulty which others experienced in cutting with the large freezer—a difficulty which few, even of the deftest manipulators, have not encountered at the outset of their sectorial career, and which convinced him that his own early failures with the common form of section-knife lay, not in any special inaptitude on his part, but in certain defects inherent in the instrument itself. These considerations induced him, some time ago, to devise a novel form of section-cutter, especially adapted for use with the larger freezers, which, he believed, would possess substantial advantages over those hitherto employed. This knife, the construction of which is very simple, was made for him by Gardner, Edinburgh; and nine months' experience of it have now served to convince him that his expectations of its utility were not altogether unfounded. In the hope that it may prove of like service to others as to him, he has been induced to publish the following description of it. He is well aware that many so-called "improvements," especially in the domain of medicine and surgery, are but too often retrograde developments; nevertheless, the ease with which his own section-cutting has been accomplished by the aid of this invention, leads him to think that it may facilitate the operation in the hands of those of his medical *confrères* now engaged in struggling, more or less unsuccessfully, with the present unsatisfactory implement.

The knife consists of a blade 7½ inches long, 2 inches broad, and $\frac{3}{16}$ths of an inch thick at the back, set at right angles upon a stout handle 10 inches long, formed by a prolongation of the metal of the blade, firmly riveted between two pieces of wood. It resembles a **T**, the horizontal part being the blade, and the perpendicular the handle. The blade is thick and chisel-edged, to prevent bending into the well of the microtome, when pressed firmly upon the cutting-plate. When in use, the end of the handle is grasped by the right hand, while the little finger and adjacent palm of the open left hand are made to exercise steady pressure on the broad blade close to the handle. The breadth of the blade prevents the hand from coming into contact with the section when cut, whereby a delicate tissue might be liable to injury.

When a section is about to be made, the blade is placed in the ordinary manner upon that part of the cutting-plate nearest to the operator. The edge is then pressed firmly against the plane of the plate with the left hand, at an angle of about 45°, and the section shaved off by a rapid, steady, straightforward push of the edge through the tissue. By observing these directions the largest sections can be made with great rapidity, with perfect evenness, and with wonderful ease.

It may be asked, If the section is made by a simple push or thrust, where is the necessity for a cutting edge 7½ inches long? Why not use a broad chisel at once? The reason for the extra length of blade is twofold: *firstly*, because to prevent bending of the edge into the well it is advisable to distribute the pressure upon those parts of the cutting-plate which lie to each side of it; and, *secondly*, because, for certain tissues, a drawing, or rather an oblique pushing cut is preferable to a straight thrust, and for such a method of cutting a considerable length of edge is requisite. In cutting nervous tissues the knife should be *slowly* pushed through them with a steady equable pressure, when, if properly hardened, they will curl themselves up on the back of the knife, and may then be transferred to a basin of water in the ordinary manner.

It may be objected that the new knife is cumbrous and unsightly, a veritable "*monstrum horrendum informe ingens;*" and, indeed, its originator cannot lay claim on its part to any great degree of beauty; but, in spite of its curious appearance, he believes that, like many other respectable and useful institutions in this world, it is, to use a Scotticism, "Better than it's bonnie."

The advantages claimed for it are the following:—

1*st.* Its use is easily learnt.

2*d.* Large and perfect sections can be cut with it, to almost any degree of thinness, with greater facility, rapidity, and certainty than with the ordinary pattern of section-knife.

3*d.* The edge, according to the present writer's experience, is not liable to chip against the glass of the cutting-plate.

Thus time and labour are economized, while the average quality of the sections is materially improved. The difficulty in keeping the edge flat on the cutting-plate is entirely obviated, as the downward pressure is exercised with the whole left hand, instead of with the tips of the finger and thumb. It answers excellently with small as well as with large freezers, but it is in working with the latter that the advantages of increased power and convenience are especially apparent. Gardner of Edinburgh is in possession of the original pattern, and will supply the knife to those who feel inclined to test for themselves the reality of its alleged advantages.

ARTICLE VII.—*A Study of Two Mesial Vertical Sections of the Female Pelvis in Relation to the Normal Support of the Uterus and Prolapsus Uteri.* By DAVID BERRY HART, M.B., Assistant to the Professor of Midwifery in the University of Edinburgh; President of the Royal Medical Society.

(*Read before the Obstetrical Society of Edinburgh, February* 12, 1879.)

WITHIN the past few years great light has been thrown on topographical anatomy and the mechanism of labour, by the publication of accurate drawings of vertical and transverse sections of the various parts of the male and female body. Reference to Braune's sections[1] will convince any one how much accuracy is given to our anatomical and obstetrical knowledge by this splendid work.

The value of such sections is that we see all the structures in their undisturbed relations; while the ordinary method of "surface dissections," by altering these, misleads as well as instructs.

Now, in studying the topographical anatomy of the female pelvis, we may, in the first place, proceed by the ordinary means of digital examination. Such a method, however, gives us the idea that its fleshy floor is permeated by canals, and is accordingly a somewhat unsubstantial honey-combed structure, through which the uterus can find little difficulty in passing. One indeed begins to wonder not that so many women have prolapsus uteri, but that more are not annoyed by it.

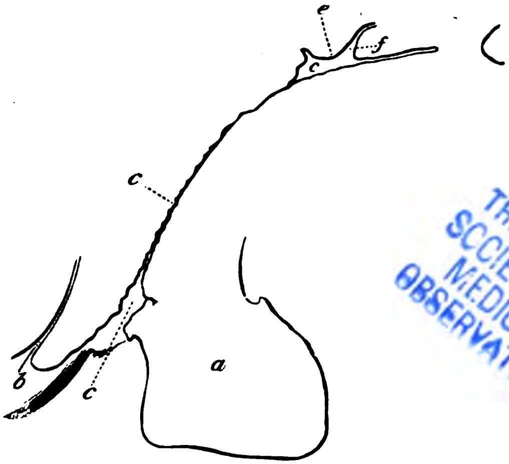
A study of sagittal sections leads, on the other hand, to quite different opinions; and it is what we can learn from such in regard to certain disputed points, that will form the subject of this communication. It is really very curious that, almost without an exception, British gynecological and anatomical text-books have depicted vertical sections of the female pelvis in the most erroneous manner. They are wrong in every point—bones hardly excepted—and have done much to retard the progress of Gynecology. A comparison of the specimens placed before you with our ordinary diagrams will, I feel, convince you that such strictures are not uncalled for.

The female bony pelvis is closed in below by the fleshy layer of the pelvic diaphragm. Its exact anatomical structure does not fall to be described here. It will be sufficient to consider it as made up of muscles, fascia, and the various vessels and nerves requisite for its nourishment, etc. As is well known, the urethra, vagina, and rectum pass through it. Now, as usually drawn, the dilated vagina and rectum appear markedly to impair the compact nature of this diaphragm. The reverse, however, is the case, and we will now attempt to show that this pelvic diaphragm in the

---

[1] *Topographisch Anatomischer Atlas nach Durchschnitten an gefrornen Cadavern.* Leipzig, 1867.

FIG. I.

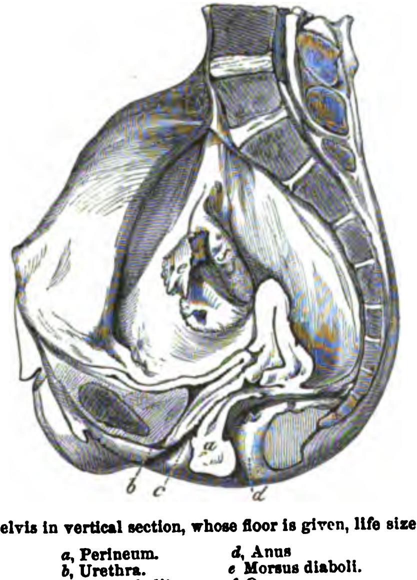


Life size drawing of Vaginal Slit in vertical section.

a, Perineum.	*e*, Anterior lip of cervix.
b, Urethra.	*f*, Os uteri.
c, Vagina.	

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION

FIG. II.

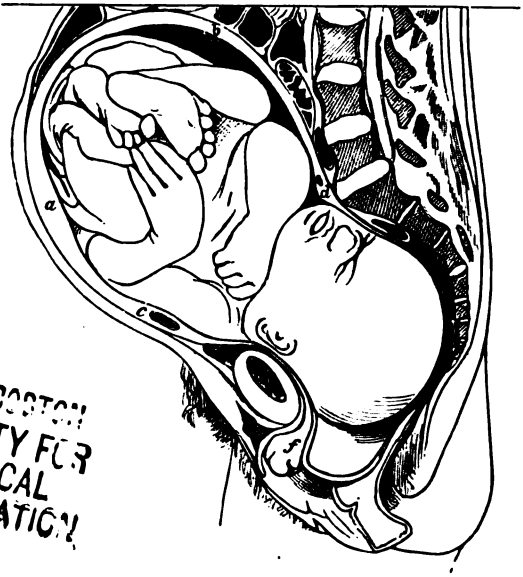


Female, Pelvis in vertical section, whose floor is given, life size, in Fig. V.

a, Perineum.	*d*, Anus
b, Urethra.	*e* Morsus diaboli.
c, Vaginal slit.	*f*, Ovary.

The uterus is anteflexed.

Fig. III.

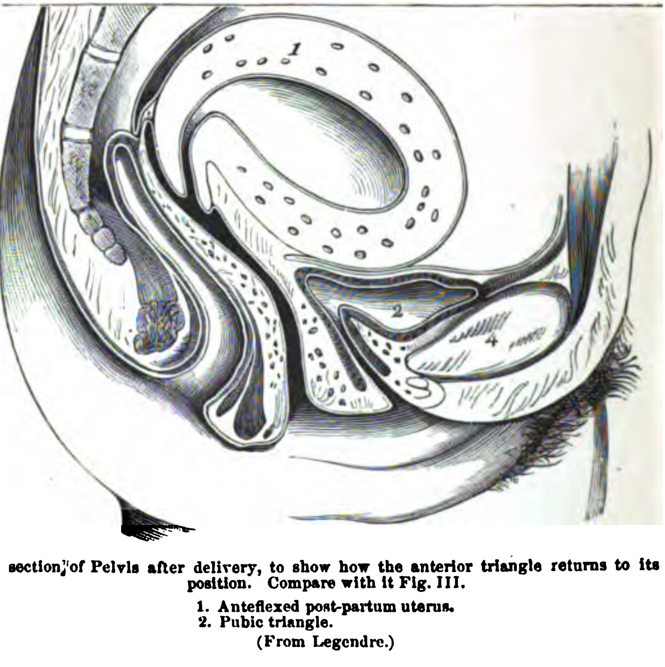


THE BOSTON SOCIETY FOR MEDICAL OBSERVATION

Drawing reduced by photography from Braune's section, Tab. C., to show elevation during labour of pubic triangle.

a, Anterior uterine wall; *b*, Posterior uterine wall—note comparative thicknesses; *c* and *d*, Os internum shown by veins—note height above pelvic brim; *e*, Bladder; *e* and *f*, Anterior or pubic triangle. The labour is at end of first stage.

Fig. IV.

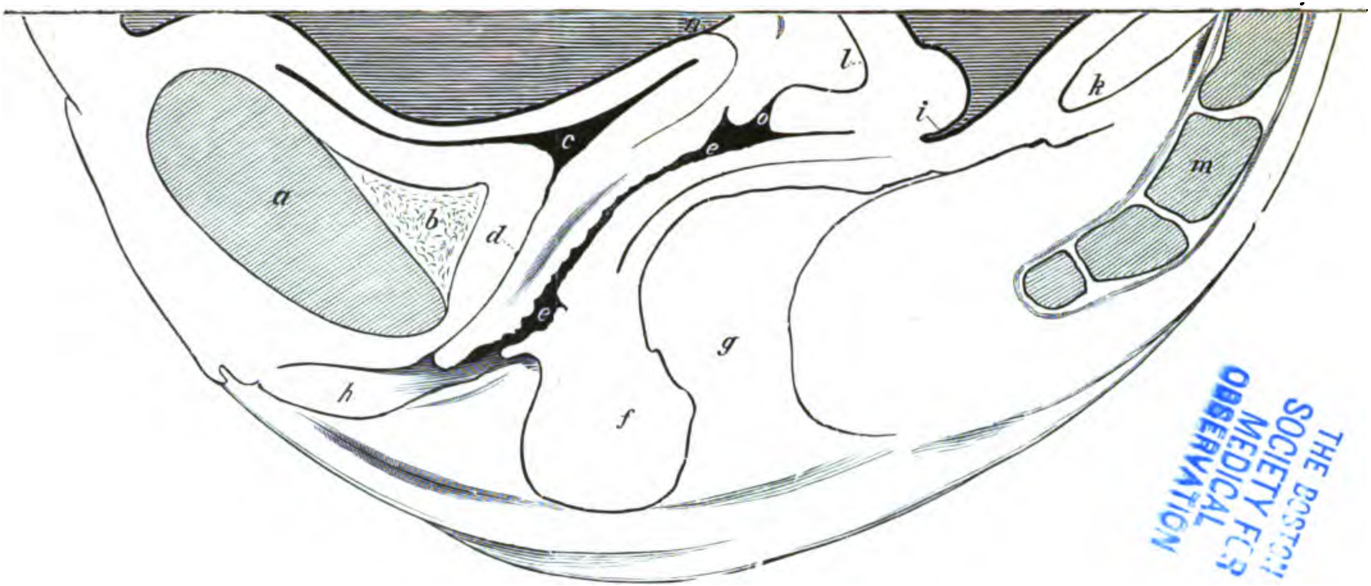


Vertical section of Pelvis after delivery, to show how the anterior triangle returns to its usual position. Compare with it Fig. III.

1. Anteflexed post-partum uterus.
2. Pubic triangle.

(From Legendre.)

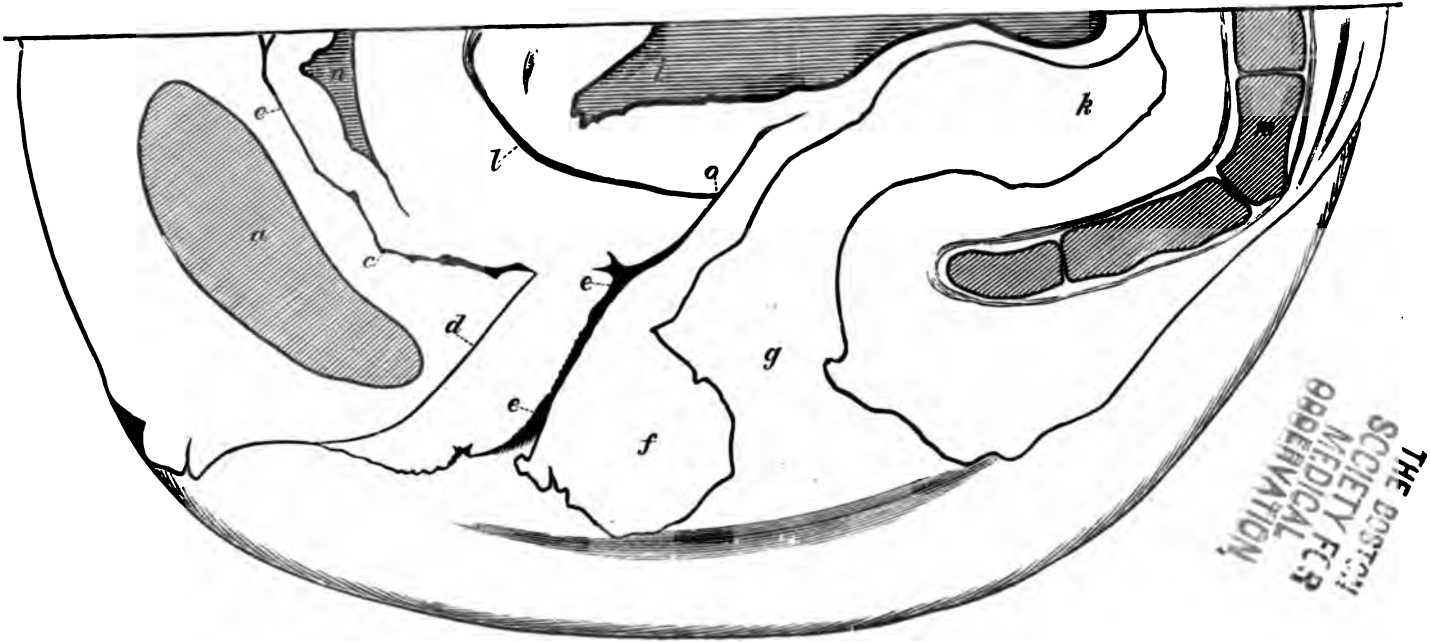
Fig. V.



THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION

Pelvic floor of Virgin, life size: *a*, Symphysis pubis; *b*, Fat triangle; *c*, Bladder; *d*, Urethra; *e e*, Vaginal slit; *f*, Perineum; *g*, Anus; *h*, Labium minus; *i*, Pouch of Douglas; *m*, Coccyx; *n*, Vesico-uterine pouch; *k*, Rectum cut; *o*, Os externum; *l*, Cervical canal. From symphysis pubis to *e e* is pubic triangle; from *e e* to coccyx is posterior quadrilateral division. The black line between vagina and rectum indicates the loose connexion between the posterior vaginal wall and the anterior rectal one. The anus is open, but of course is closed during life. If it be imagined closed, then the compactness of the floor is seen at a glance.

Fig. VI.



THE BOSTON SOCIETY FOR MEDICAL OBSERVATION

Pelvic floor of female Pelvis, life size. In this case the uterus is retroflexed, and pregnant two months.

a, Symphysis pubis; *c c*, Bladder; *d*, Urethra; *e e*, Vaginal slit; *f*, Perineum; *g*, Anus; *i*, Pouch of Douglas; *k*, Rectum; *l*, Cervical canal; *m*, Coccyx; *n*, Vesico-uterine pouch; *o*, Os uteri.

Note here how, owing to the retroflexion, the pouch of Douglas is enlarged, the pubic triangle diminished, and the bladder elevated by compression.

virgin is a compact and homogeneous layer, as compact and unimpaired as in the male.

In the first place, the anus is always, during life, closed; and therefore the muscular sphincter, reducing it to a pucker, really adds to the strength of the floor.

Then, above all, the vagina is no cavity under ordinary circumstances and postures.[1] In vertical section its walls are in perfectly accurate apposition. (Fig. I. V. VI.) It has no side walls at all, only an anterior and posterior, each of a triangular shape with multiplied transverse rugosities. From this description, then, it is evident that the "vaginal slit" in no way impairs the strength of the pelvic floor. Were it the tube usually figured, prolapsus uteri would be the normal state in almost all women. We need not delay to prove that the urethra, practically a capillary tube, interferes as little with the efficiency of the pelvic floor as the vagina and rectum.

The pelvic diaphragm is therefore a thick, compact layer, tunnelled by no cavities. Its thickness varies, being greatest at its centre, least at its sacral attachment, and intermediate near the pubis. In one of the sections (Fig. V.) the thicknesses at the above points are 2½ inches, 1½ inches, and 2 inches. The slits traversing it are all parallel, or nearly so, to the pelvic brim—a fact of importance to be again alluded to. By this "vaginal slit" we get the pelvic floor divided anatomically into two portions—a pubic anterior, and a sacral posterior, half.

The pubic anterior half is triangular in shape, has a pubic, vaginal, and pelvic side, and is made up of bladder and anterior vaginal wall. The pubic side does not accurately hug the smooth surface of the pubis, but is V shaped, with the apex of the V turned to the sacrum. (Fig. V.) This angular interspace between the pubis and bladder is filled up with loose fat. The vaginal and pubic sides are each 2 inches long, while the pelvic is 3 inches. (Fig. V.) This triangle has, therefore, no firm bony attachments, is only feebly muscular, and is so arranged that its pubic side can freely extend round the symphysis as a centre, and in any movement downwards will necessarily drag on the uterus, since the anterior lip of the cervix is attached to its posterior angle.

The sacral half of the pelvic floor is roughly oblong in its shape. As contrasted with the pubic half, it has a strong dove-tailed attachment to the sacrum and coccyx, and is made up of strong resistant muscular and tendinous tissue.

A fact of some practical bearing is that the posterior wall of the vagina is loosely connected to the anterior wall of the rectum until within 1½ inch from the anus. This is shown in Plate II.

---

[1] The knee-elbow and lithotomy postures, by admitting air, render the vagina a pyramidal cavity, the apex being at the ostium vaginæ. The probable cause of this will form the subject of a separate communication.

of Braune's work, and is seen in Fig. V. It has important bearings on prolapsus uteri.

One of the most striking features in the section is the perineum. We see it here in its true relations and usefulness. It is a wedge of elastic tissue lying, with apex up, between the lower half of the vagina and rectum. It strengthens that part of the pelvic floor distended most by expiratory efforts; like an elastic pad banks up efficiently the lower part of the vagina: distends into a thin segment to allow of the passage of the head during parturition, and then resiles again to its old buttress form; prevents pouching of the rectum into the vagina; and in most cases hinders that crumpling of the anterior or pubic portion of the pelvic diaphragm past the posterior or sacral portion, which is the initial step of prolapsus uteri.

Lastly, it should be noted, that of these two portions of the pelvic floor, the anterior or pubic receives the greater share of the intra-abdominal pressure.

If, then, the pelvic diaphragm is as compact as we have described, it is evident that the uterus, resting on its upper surface, needs no ligaments to suspend it, any more than a chair or table resting on a floor, does. If ligaments, indeed, do suspend it, why is it that we can haul down a uterus in any woman to the level of or outside the ostium vaginæ? We believe it is not suspended by ligaments at all, but simply rests on the substantial pelvic floor almost at right angles to the slit down which, under certain circumstances, it may be dragged.[1] Before passing from the natural support of the uterus, it will be advisable to notice briefly the theory advocated by Dr M. Duncan in his *Researches in Obstetrics.* A special retentive power of the abdomen[2] has been advocated by him as contributing greatly to the support of the uterus. It is difficult either to grasp or criticise this theory, as Dr Duncan does not precisely state what he himself thinks it is. Thus he frankly says at the end of his communication—"Having shown that this so-called retentive power exists, and has important functions, it would be proper for me now to enter upon the description of its mechanism, its degree or force, the causes of its variations, and the means which might be employed to increase or diminish as medical practitioners might desire. . . . This knowledge is very scant and deficient."[3]

From his paper we learn, however, that it is a mechanical quality which may be present in an extraordinary degree, diminished, or entirely absent. As to its power, Dr Duncan thinks it is considerable, for he speaks of it sucking back a 9 lb. child, and lifting a 2 lb. uterus out of the pelvis up to, or even above, the umbilicus, "against gravitation, against the resistance of superincumbent bowels and anterior abdominal flap."

---

[1] See Studley on "The Mechanical Treatment of Versions and Flexions of the Womb," *American Journal of Obstetrics*, January 1879, p. 39, for more elaborate views.

[2] *Researches in Obstetrics*, 1868.

[3] *Loc. cit.*, p. 478.

While admitting the value of Dr Duncan's contributions to the physics of the abdomen, I do not think he has as yet proved the existence of a special retentive power.

Many of the cases in which Dr Duncan supposes it to act may be explained in other ways. Thus, the recession of the head after a pain is more easily explained as due to the recoil of the elastic lining of the female pelvis than to any sucking-back power of the abdomen. Then is not the alleged ascent of the uterus a growth of it upwards in the direction of least resistance, just as it grows down towards the perineum when retroflexed? It is difficult to conceive why the retentive power should act so strongly during labour or at the end of it. There is no reason for supposing that, if it does exist, it may not be as strong when the uterus is unimpregnated. If so, it could easily suck up a 2½ oz. uterus to the level, or nearly so, of the thoracic diaphragm itself. The difficulties in accepting this theory are so great, and the proofs as yet advanced in support are so scanty, that I do not see how we can give it a share in the natural support of the uterus. We now pass to the clinical applications of the views of the pelvic floor already given.[1] If the pelvic diaphragm of a virginal patient be watched during strong expiration or bearing down, it will be seen to become more convex, especially at or near the base of the perineum. No part of the vaginal or anal mucous membrane is everted, *i.e.*, the compactness of the pelvic diaphragm is not interfered with during violent efforts; or, to put it in other words, the pubic half of the floor is accurately pressed against the sacral half, and does not slip past it.

The reason of this is as follows:—The intra-abdominal pressure strikes the pelvic floor in lines whose resultant coincides more or less with the axis of the brim, and thus distends it. It is therefore almost at right angles to the vaginal slit. From the accurate apposition of the vaginal walls, the anterior triangular part of the pelvic floor is, in the virgin, accurately and firmly pressed against the posterior, and thus the pelvic floor, viewed from without, only becomes more distended, but the continuity of its skin boundary is unbroken by any eversion of vaginal mucous membrane. In the case of a woman who has only had an abortion, say, violent straining even with the posterior wall of the vagina well hooked back by the finger, gives little or no eversion of the anterior wall, although the usual posterior vaginal support is withdrawn. The anterior triangle has indeed not lost its elasticity and rigidity, and does not crumple up sufficiently to pass out at the artificially dilated vaginal orifice. Now, in a multiparous woman with a perineal tear only slightly involving the pyramidal body, inspection of the vaginal orifice will show that generally about ½ inch of the anterior vaginal wall is exposed. Under strong expiration another half inch will slip past and appear. At the same time, however, from cohesion between the vaginal walls, the posterior wall is also partially dragged down, and, by blocking the vaginal orifice, tends to keep up the further eversion of the anterior wall. If the posterior wall be now hooked back, then more of the anterior wall will slip past.

---

[1] The clinical cases now given are all from patients attending Professor Simpson's clinique.

The stages in the descent of a complete prolapsus are now as follows:—We have first, of course, the appearance of the anterior vaginal wall, from below up, at the orifice. *Pari passu* with its descent, the uterus and posterior vaginal wall have come down, the lowest uterine point, tracing out the pelvic curve, and the uterus becoming more and more inclined backwards, until at the vaginal orifice it lies in the vaginal axis, with the posterior vaginal wall forming a pouch, the depth of half its own length, behind it. Further efforts on the part of the woman now drive the uterus outside. The os uteri sweeps upwards and forwards, and the posterior vaginal wall is now completely everted, its lowest part appearing last.[1]

A vertical section would now show—

1. Almost complete extrusion of the anterior or pubic part of the floor. The upper and anterior part of the bladder is, however, still behind the symphysis.
2. Complete extrusion of the uterus, which generally lies with fundus below the level of the *os.*
3. Rectum in position, and only posterior vaginal wall down. The latter peels from the rectum from above downwards until it reaches the lowest inch and a half of close connexion, which then elongates.

Thus we have complete descent of the anterior triangle and uterus, but only of the anterior layer of the sacral half of the pelvic floor. Occasionally we meet with deviations from this mechanism. Sometimes both vaginal walls descend equally from below up, and the uterus appears last. In such cases a large rectocele is present, bulging out at the orifice, and accordingly, from the resistance it offers to the outer vaginal wall, the posterior vaginal wall is forced out equally with the former. When this rectocele is hooked back, the prolapse follows its usual course.

Before finally summing up the factors in the production of a prolapsus uteri, we must consider two important cases which throw some light on the whole subject.

E. M., æt. 19, was admitted to ward XII. M. The points in her case bearing on our present subject were, first, that the perineum was completely torn just down to the anterior margin of the anus.

---

[1] The above description of the mechanism in a complete prolapsus is drawn from personal clinical observation of a large number of cases, and a comparison of that given by Drs Matthews Duncan, Marion Sims, and A. R. Simpson.

The sphincter was only involved to a very small extent, but still a little flatus and fæces passed if she strained violently. More than an inch of the anterior vaginal wall was, of course, exposed unsupported. The perineum had been thus torn about eighteen months previously, but as yet no prolapse of vaginal wall had occurred. Under straining efforts and hooking back of the posterior wall the vaginal wall prolapsed considerably.

Now, at first, I felt inclined to think that here was strong proof for the belief that the perineum has nothing to do with prolapsus uteri. Careful observation of the case, however, revealed the following facts :—Filling up the angular gap left by the perineal tear was an excrescence of mucous membrane, really a small rectocele. It almost touched the anterior vaginal wall, and pressing firmly against it when enlarged during straining, helped efficiently to bank it up. It was indeed an accidental and by no means inefficient substitute for the perineum. But, further, the patient had a retroflexed and enlarged uterus, which of course made tension on the anterior triangle, and helped to prevent its eversion. These two co-existent lesions explain why this girl had no prolapsus as yet, and show that in other cases careful search should be made for causes preventing it.

The second case was one with marked lacerations of the perineum and no prolapse. A tedious first labour ending in vesico-vaginal fistula, and consequent urinary irritation, had, however, so thickened and indurated the vaginal wall as to render its crumpling out at the dilated vaginal orifice impossible.

In the last place, we have in almost all cases of prolapsus uteri, a definite mechanism as viewed at the vaginal orifice, viz., descent of anterior vaginal wall, cervix uteri, and posterior wall. Now, if the uterus be pulled down by a vulsellum, it will be found that the os uteri is at the vaginal orifice before any part of the walls is everted, and that when the os uteri is so placed, we have the vaginal walls forming a deep pouch all around. Hauling down the uterus to imitate a prolapsus would really do so if the uterus ever primarily descended—a thing I have never seen. The true way to imitate prolapsus is to haul or push down the anterior pubic triangle. It is evident that this will be easy in a cadaver where the support of the posterior wall is lost at its lowest part by perineal laceration, and where the anterior triangle has more or less lost its tone. There will be great difficulty in doing so in a virgin pelvis where the parts are rigid, and the pubic and sacral halves of the pelvis floor in close contact. Still it can be done; so that I can quite fairly imagine what I have not yet seen, viz., a descent of the pubic triangle past the sacral in a virgin, the conditions of great intra-abdominal pressure and a vaginal axis not parallel to, but making an angle more or less acute with the pelvic brim, being present.

Of late years the changes in the cervix uteri during labour have attracted the attention of obstetricians. From the researches of

Braune[1] and Bandl[2] we know now with some accuracy the alterations, physiological and pathological, in its length and calibre. From time immemorial the alterations in the perineum during the passage of the head have been known, although as yet we have no accurate anatomical information on the changes taking place during labour in the posterior part of the pelvic floor I shall therefore only describe it as being driven down and thinned out by the advancing head. At present I wish more particularly to describe the hitherto ignored changes during labour, and their significance, of the anterior triangular part of the pelvic floor—an inquiry in which I was assisted by Professor A. R. Simpson—as seen in Braune's beautiful sections.[3] This thick substantial part is elevated, thinned out, and flattened against the pubis. From a triangular shape it is altered into a thin, elongated egg shaped arrangement, accurately hugging the pubis, obliterating the fat triangle there, and driven forward above and below it. The bladder, instead of lying with its upper border hardly reaching up to the top of the pubis, becomes dragged up, and flattened out to the form already described. (Fig. III.)

Bandl [4] describes the *os internum* as lying close above the level of the pelvic brim after labour is completed. If we examine Braune's section (Tab. C), then the anterior margin is 2⅛ inches above the symphysis pubis, while the posterior margin is only a little above the promontory of the sacrum. The cervical tube has its anterior and posterior walls almost exactly the same length. Then, as Bandl points out, the anterior uterine wall is at least twice the thickness of the posterior one. (Fig. III.) Now, further, if in Tab. B, we measure the vertical distance of the base of the labium minus from the lower edge of the symphysis, we find it to be about 2¼ inches, whereas in Tab. C the same measurement is only 1¼ inch. Tab. B [5] shows the anterior triangle at the end of pregnancy, while Tab. C gives it at the end of the first stage.

All this is easily explained as follows:—The contraction of the muscular uterus not only propels the child down, but elongates and draws the cervix up over the advancing head.[6] The anterior lip of the cervix is attached most advantageously to the upper and posterior angle of the movable pubic triangle of the pelvic floor, the posterior lip to the fixed sacral part. (Fig. V.) Accordingly, the anterior or pubic triangle is drawn up considerably, and the anterior uterine musculature, therefore, thicker than the posterior, simply because it is more contracted.[7]

---

[1] Braune, *Die Lage des Uterus und Fœtus am Ende der Schwangerschaft*, Leipzig, 1872.

[2] Bandl, *Uber Ruptur der Gebärmutter, und ihre Mechanik*, Wien. 1875.

[3] *Die Lage des Fœtus und Uterus am Ende der Schwangerschaft.* Table C.

[4] *Loc. cit.*, s. 54.

[5] This section is that of a different woman. The difference given is more than can be accounted for by special peculiarity. Braune, *loc. citat.* Table B and C.

[6] Bandl, *loc. cit.*, *passim*.

[7] The appearance of great distention of the bladder, sometimes found in a mismanaged first stage, is accounted for partly by this drawing up.

During labour, then, the pubic half of the pelvic floor is elongated and drawn up above the symphysis pubis, the sacral is thinned out and depressed.[1]

We have already stated that the true way to bring about prolapsus uteri artificially would be to depress the pubic triangle past the posterior sacral part of the pelvic floor. During parturition, however, this does not happen, and accordingly the best means of causing prolapse never occurs. The way in which parturition brings about prolapse is by impairing the apposition of the posterior and anterior walls, and the elasticity of the anterior triangle.

It is evident, then, that there is sufficient ground for considering the pelvic floor as made up of two parts, anatomically, physiologically, and pathologically contrasted.

The pubic part is made up of slack membranous tissue, and has loose attachments, permitting easily its elevation or depression; rests on the posterior sacral part, and by being driven down causes prolapsus uteri. The posterior quadrilateral part has strong bony attachments and resistant tissue; is thinned out and driven down in labour, supports the pubic half, and by laceration of its anterior and lower edge, allows of that slipping past of the atonic anterior pubic triangle which initiates, and may end in, prolapsus uteri.

The following are, briefly, the conclusions arrived at:—

I. The virgin pelvic diaphragm is an unbroken fleshy layer, with no cavities in it.

II. It may be regarded as divided into pubic and sacral parts, differing anatomically and functionally, by the vaginal slit.

III. The uterus lies anteverted on this unbroken layer, independently of ligamentous or other support, and its lips are attached one to the anterior half, the other to the posterior half of the pelvic floor.

IV. Prolapse of the uterus is caused by the slipping of the anterior half past the posterior. The uterus never comes down, but is always dragged down.

V. Increased weight of the uterus in itself does not initiate prolapse. The three factors concerned are—

A. Loss of apposition of the pubic and sacral parts, in most cases started by perineal laceration.[2]

B. Loss of "tone" of anterior triangle.

C. Intra-abdominal pressure.

It should be kept in mind that a prolapse may be prevented by some co-existent lesions, and caused in some rare cases by increased intra-abdominal pressure alone.

---

[1] It should be noted in Fig. VI. that we have a distinct alteration of the pubic triangle, *i.e.*, its diminution and obliteration of the fat triangle there, owing to the retroflexion.

[2] For the view that the perineum has nothing to do with prolapsus uteri, see Dr Duncan's *Papers on the Female Perineum.* Churchill, 1879.

ARTICLE VIII.—*Case of Poisoning from Fusel Oil and Aconite.* By WILLIAM STEWART, M.B., B.Sc., Leith.

(*Read before the Medico-Chirurgical Society of Edinburgh, February* 4, 1879.)

AT seven o'clock on the evening of the 14th October I was asked to see a Mrs M., Lorne Street. On reaching the house a few minutes after, I found her lying in bed, on her left side, with her clothes on, and quite unconscious. Face, pale and cool; temperature of the rest of the body, natural; pulse 102, weak but regular; respirations 27, regular but sighing; pupils, equally dilated, reacting to light only very slightly and very sluggishly, no reflex action on touching the cornea; limbs, flaccid. A distinct smell of fusel oil was perceived in the breath. A small quantity of mucus was lying on the pillow and also on her dress, but there was no appearance of vomiting. I was told by her brother that they were afraid that she had swallowed a liniment of "foreshot,"[1] which also contained aconite. I at once applied cold affusion to the head, which had the effect of strengthening the respirations, of causing an attempt at vomiting, and after a minute or two of contracting the pupils. I obtained the assistance of Dr Garland, and we continued the cold affusions to the head, and then proceeded to use the stomach-pump. The respirations were now (about a quarter to eight) somewhat stertorous, and the pulse feebler. Considerable difficulty was experienced in the introduction of the tube, and the gag was required owing to the fixation of the lower jaw. On its introduction feeble vomiting was induced, and some mucus was ejected. About six ounces of warm water were introduced into the stomach, and then about ten ounces of a fluid mixed with flaky and oily matters, and smelling very strongly of fusel oil, were withdrawn. A little more water was pumped into the stomach, but we found that we were unable to pump it out again. An enema of strong coffee was given. The respirations were now more laboured and slower, the pulse very weak, and the pupils widely dilated and insensible to light. In a quarter of an hour another stomach pump was tried, but only a little clear fluid was drawn off, showing, as we thought, that the stomach was now empty. We were satisfied that the tube was in the stomach, and the pump working well enough; but a short time afterwards, when an attempt was made to introduce the tube again for the purpose of administering coffee, it was found that it stopped near the lower end of the œsophagus, and the coffee regurgitated into the mouth. During this time she was rapidly sinking, with cold perspiration, involuntary defæcation, and the respirations becoming more laboured and with tracheal râles, while the pulse was almost imperceptible. Afterwards the circulation revived a little, and cold affusion was tried for twenty or thirty seconds, when the breathing stopped, and apparently the heart's action at the same time, as there was no lividity of the face. She died at half-past nine, two and a half hours after I had been called to see her.

---

[1] Foreshot is the name given, in the distillation of whisky, to that spirit which comes over first. It consists almost entirely of fusel oil—impure amylic alcohol.

The liniment, which is valued in the neighbourhood as a remedy for rheumatism, and is prepared by a partner in a well-known firm of rectifiers, was contained in a bottle holding five fluid ounces, with a large label "Poison" on it. Each bottle contains, as I am informed by this gentleman, a fluid drachm and a half of tincture of aconite (B.P.), and thirty grains of camphor, the remainder being "foreshot."

The quantity which the unfortunate woman had taken is not so easy to determine, because though it was said that the bottle was full in the morning, some had been spilt in another room, and judging from the size of a stain on the carpet, at least one and a half fluid ounces must have been lost in this way. So in all probability between three or four fluid ounces of fusel oil, containing, therefore, about a fluid drachm of the pharmacopœial tincture of aconite and about twenty grains of camphor, had been swallowed.

She was last seen in health by her husband at half-past nine in the morning; she opened the door for her children at twelve o'clock, but did not speak to them. At one o'clock she seemed so ill that her eldest girl stayed at home from school on that account, but between one and two she was able to rise from the bed and go into another room for a few minutes.

Death seemed to take place from paralysis of the respiratory and cardiac nerves.

Autopsy made forty-two hours after death with the assistance of Dr Campbell of Leith Hospital.

Post-mortem rigidity and lividity well marked. Smell of fusel oil distinct. Commencing putrefactive change on skin of abdomen. Varicose veins in both legs, with patch of psoriasis on right leg, for which she was said to have used the liniment. Slight frothing at mouth. Pupils dilated. On opening the thorax the smell of fusel oil was quite distinctly perceived. About a drachm of dark serous fluid in the left pleural cavity. *Left lung* crepitant throughout, but containing a considerable amount of frothy sero-sanguinolent fluid; lower lobe much congested, with some small areas next the pleura having almost the appearance of pulmonary apoplexy. The most congested part of the lung floats in water. Bronchial tubes congested, of a bright red tint, and containing a small quantity of frothy mucus. *Right lung*, anterior margins emphysematous, lower lobe congested, and along its margin adjoining the pleura for the space of three lines in depth and three inches in length the pulmonic tissue is intensely congested and carnified. The bronchial tubes present a similar appearance to those of the left lung. *Heart* of normal size, cavities neither dilated nor contracted, contain no clots. Aortic and pulmonic valves competent. The endocardium of the right auricle, one of the segments of the tricuspid valve, and the endocardium of the right ventricle, of a dark red colour, as was also the endocardium of the aortic valves. The lining membrane of the aorta is smooth and of a bright red colour. *Liver* normal in size. On section a distinct smell of fusel oil is perceived. The section presents a slightly fatty appearance, and is somewhat congested, a considerable quantity of fluid blood exuding. The gall bladder contains about an ounce of fluid bile, also giving off a strong odour of fusel oil. *Spleen* small, firm, and normal in appearance, and on section. The *stomach* was nearly filled with contents, and the œsophagus was somewhat distended, and in the latter, at about three inches from the cardiac end of the stomach, was found a piece of raw ham, about an inch in length and half an inch in breadth, quite unmasticated. This was probably the cause of the failure of the stomach tube to reach the stomach, and of the regurgitation of the coffee. The stomach contained about a pint of dark fluid of the consistence of pea-soup, along with about a dozen pieces of raw unmasticated meat. These pieces of meat may possibly have acted as valves at the orifices of the stomach tube, allowing water to be pumped into the stomach, but preventing its withdrawal. The mucous membrane shows numerous arborescent vessels of a bright red colour, with many small spots of bright red extravasation. These appearances are best marked at the cardiac end, on the posterior surface, and along the greater curvature. There are also several small points where the mucous membrane is eroded, probably by post-mortem change. The *duodenum* shows evidence of putrefactive change, but is not congested. The *small* and *large intestines* are both normal. The *kidneys* are much congested throughout, but especially so in their pyramids. *Bladder* is filled with pale coloured urine, not smelling distinctly of fusel oil. *Brain:* the venous sinuses of the dura mater are filled with dark fluid blood, veins of pia mater, especially posteriorly, filled with fluid blood. No adhesions. Surface of the pons varolii pale, but with numerous arborescent vessels of a bright red colour. The vessels of the base are healthy. On section the brain substance, both grey and white, appears distinctly paler than normal. The walls of the lateral ventricles show arborescent vessels filled with fluid blood, but the general appearance is pale. No distinct smell of fusel oil could be detected on exposing the brain, nor on opening into the ventricles. The *corpora striata*, on section, are darker in appearance than normal, and show numerous well-marked *puncta cruenta*, but the white substance immediately adjoining and the *optic thalami* look paler than natural. The *verebellum* has a pale appearance on section, as also has the *pons varolii*, but here the *puncta cruenta* are better marked. The *medulla* also looks pale, and so does the upper part of the *spinal cord*. The blood was fluid throughout the entire body, no clots being seen anywhere.

Analysis.—Through the courtesy, and with the kind assistance of Professor Maclagan, I was enabled in his laboratory to distil amylic alcohol from the contents of the stomach, and also to extract aconitia from the same by Stas' process. I was also able to prove the presence of amylic alcohol in the urine by distilling, and developing valerianic acid from the destillate by the action of sulphuric acid and bichromate of potash.

Remarks.—The case is unusual, and possessed of many points of interest. I have as yet been unable to find a similar case on record, or, in fact, any record of the effects of a poisonous dose of fusel oil on the human subject, with the exception of the abstract in Husemann's *Toxicologie*, of a book in the French language by A. F. A. Cros, *The Action of Amylic Alcohol on the Organism*, published at Strasburg, 1863. Cros states that 4 grammes cause general weakness and depression, weight of the eyelids, eructations, meteorism, and diarrhœa, and after doses of from 8–16 grammes there is caused, in addition, hurried deep respiration, great anxiety, repeated vomiting, and lassitude lasting for a long time. The experimental inquiries that have been made into the action of amylic alcohol are comparatively few, and do not exactly support each other. Thus Professor Binz of Bonn (as quoted in Braithwaite's *Retrospect*, 2d vol. for 1876) says that the animal to which fusel oil has been given "lies completely stupified," and "recovers from its condition of narcosis but slowly and with difficulty." He says, moreover, "If the doses administered have been large, a paralysis of the respiratory centre may readily supervene." Cros bears this out in his experiments, and speaks of complete loss of sensibility, and of prolonged stertorous breathing. Dr B. W. Richardson, on the other hand (giving in the *British and Foreign Medico-Chirurgical Review* for 1867 a digest of his papers on the Amylic Series, which are recorded in the *Transactions of the British Association* for 1864-5-6), says, "It, amylic-alcohol, sets up a peculiar class of symptoms which last for many hours, and from which it would seem the animal could not possibly recover, but from which it does always recover. The symptoms are those of muscular paralysis, with paroxysms of tremulous convulsion, which paroxysms can be excited at any moment by merely touching the animal, breathing upon it, or otherwise subjecting it to trifling excitation." He also says, "Considered as poisons, we look on the amyl series of bodies as analogous in action to strychnine."

It will be seen that the symptoms observed in our case are not in accordance with the views of Dr Richardson; for, with the exception of the fixation of the lower jaw, there were no signs of convulsive movement. The condition was more in accordance with Professor Binz's experiments, the patient lying completely stupified, and a paralysis of the respiratory centre supervening.

We must not, however, regard the case as one of poisoning by fusel oil alone, though I think it must bear the greater amount of blame; but we must take into account the poisonous dose (ʒj) of tincture of aconite. It is a matter of great difficulty to estimate the exact value of the two factors. The deep unconsciousness, the absence of vomiting, the regularity of the pulse, and the normal temperature of the body, at the time she was first seen, together with the whole appearance of the case, made on the minds of both Dr Garland and myself the impression of alcoholic, and not of aconite poisoning. The failure of the heart's action, and the rapidity with which the unfortunate woman sank, though keeping pace with the deepening coma, would seem, however, to point more to aconite. I regret now that I did not inject digitalis subcutaneously, though, from the appearance of the case from the first, it is extremely doubtful if anything would have hindered the fatal issue. The saturation of all the fluids of the body with fusel oil, and the fluid condition of the blood, though this condition has been found in cases of aconite poisoning, point more to fusel oil as the principal agent; while, on the other hand, the anæmic condition of the brain—unusual in any form of alcoholic poisoning—would seem to lead us to regard the aconite as responsible for at least this latter result.

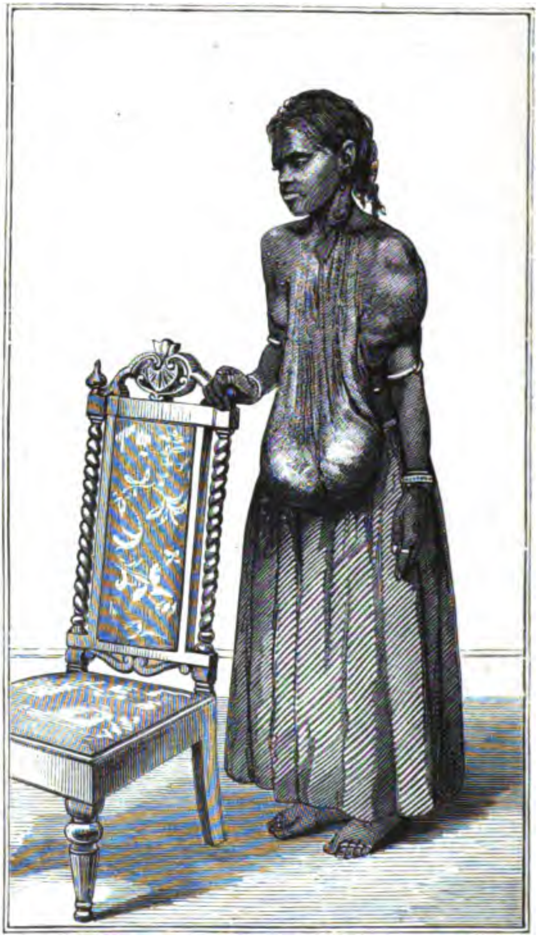
I may mention in this connexion that Santlers and Votolini have described a cinnabar red colour of the aorta and pulmonary artery, and of their valves, as a peculiar appearance found in cases of alcoholic poisoning; and in our case this colour was well seen in the aorta. As regards the camphor, it is worth noticing that we had a certain amount of trismus, and Husemann notes as one of the symptoms of poisoning by camphor, "a slight degree of trismus." The fact that Taylor mentions a case in which twenty grains gave rise to grave symptoms in an adult, and the publication of several cases by Dr George Johnston of poisoning by comparatively small doses of an alcoholic solution of camphor, lead us to regard this agent with suspicion; still, I think, in this case we cannot lay much of the blame on it.

ARTICLE IX.—*Large Tumour Growing from the Clavicle.*

By J. HUSBAND, F.R.C.S.E.

A GIRL, aged 15, named Gori, from the military station of Nusseerabad, sought admission into the Mission Hospital at Ajmere in the end of last year, complaining of the trouble and difficulty of locomotion she experienced from the presence of a large tumour growing from the clavicle and shoulder-joint, and stretching to below the umbilicus. The girl and her father state that when she was about eight years of age a small tumour appeared at the side of the neck, which gave rise to no trouble, and did not increase rapidly. During the last six months, according to the girl's account, the growth of the tumour has been remarkably active, until, from the original growth, the size of a hen's egg, it

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION



DR HUSBAND'S CASE OF LARGE TUMOUR GROWING FROM THE CLAVICLE.

has attained its present dimensions. The girl, who belonged to a low caste family, was dependent on her bodily labour for her subsistence; and as the growth was troublesome by its weight it prevented her attending to her usual avocations, and she was very anxious to have it removed. The tumour looked like a huge thick veil spread over the left side of the chest and neck, with a solid mass at the bottom, had a bluish-black appearance, was so movable that the girl could toss it over her back when she found it was inconvenient to have it in front, and was so painless that, when I inquired as to the cause of several ulcerated-looking patches at the bottom of it, the girl declared that these had been caused by the mice and rats nibbling it at night when she was asleep. I showed the case to my friend Dr Murray, the civil surgeon, and several professional friends who were here at the time, and although there were various guesses as to the composition of the growth, there was only one opinion as to the propriety of ridding the girl of such an unsightly encumbrance; and so, a few days after, the patient being well chloroformed, I proceeded to remove the whole mass by a cutting operation. The case was obviously one for the use of the ecraseur, but, as I did not happen to possess that instrument at the time, and as the girl and her friends were anxious that the mass should be removed at once, I agreed to remove it by the knife. As there was considerable doubt about the skin being healthy, it was agreed to sweep the whole mass away; and, as there were one or two glandular-like prolongations into the neck and behind the ear, there was a very large surface left to heal by granulation. The operation was exceedingly simple. Large veins ramified all over the surface of the tumour, and their ligaturing gave us a little trouble, but no further difficulty was experienced. The tumour, on removal, weighed eight pounds. The patient rallied rapidly from the shock of the operation, and made such a very satisfactory recovery, that in two months after, when she left the hospital, the large surface was nearly all cicatrized over; the girl had improved in weight, and was very grateful for what had been done.

The case, so far as I am aware, is not a common one, and deserves, I think, to be put on record. In the third vol. of the *Principles of Surgery*, by John Bell, published in 1808, in an article on the "Unlimited Growth of Tumours," he figures and describes the case of Eleanor Fitzgerald, which, in appearance at least, has a strong resemblance to the case I have attempted to describe. The accompanying wood-cut gives a fair idea of the appearance which the tumour presented. I sent a specimen of the growth to a friend in Bombay, who was fortunate enough to get it examined by such a distinguished microscopist as Dr Vandyke Carter, who found it to consist of fibrous tissue. There were young cells, some containing pigment, but no clear signs of malignancy of any value.

ARTICLE X.—*On the Adenoid Tumours of the Naso-Pharynx, and their Influence on the Hearing, Breathing, and Phonation, and on their Treatment.* By Dr LŒWENBERG, Paris. Abridged and translated, at the request of the Author, by JAMES PATTERSON CASSELLS, M.D., M.R.C.S. Lond., Fellow of the Faculty of Physicians and Surgeons, Surgeon to the Glasgow Dispensary for the Diseases of the Ear, Aural-Surgeon to the Glasgow Royal Infirmary, and Lecturer on Aural-Surgery in the Royal Infirmary School of Medicine, Glasgow.

THE pathology of the nasal passages and of the naso-pharynx has received a new interpretation since the introduction into practice of the use of the rhinoscope, by which parts that were formerly hidden are now exposed to view. Parallel with this improvement in the mode of examining these parts, important results have been also obtained for the treatment of the affections of regions which are so essential for breathing, for phonation, and for hearing.

One of the first results which the method of rhinoscopy put into the hands of its inventor, the eminent physiologist Czermak, was the discovery of a particular group of tumours seated in the naso-pharynx, and impeding in the most serious manner the functions of that region, as well as those of the middle ear and of the nasal cavities.

Our first observations upon this subject furnished the matter of a contribution, published as early as 1865 in the *Archives d'Otologie,* under the following title:—"On the Utilization of the Rhinoscope, and of a new Naso-Pharyngeal Douche in the Diagnosis, and the Treatment of the Affections of the Ear and of the Naso-Pharyngeal cavity."[1]

The adenoid tumours of the naso-pharynx are found almost exclusively in infancy and childhood. Arrived at a certain development, they impress on the subject a characteristic appearance well known to every one, although its cause is not generally recognised. Obstructing by their volume the naso-pharynx, these tumours render breathing through the nose difficult, if not impossible; in this way compelling the patient to keep the mouth wide open day and night, which habit of mouth-breathing gives to the physiognomy a particular expression of stupidity. The same cause also renders the pronunciation defective in a great number of cases. Almost always the middle-ear is attacked, and the hearing is lessened often in an alarming degree. Besides all that, the general health, through time, in most cases becomes injured, unless skill intervene to cut short the cause of the evil and its disastrous results.

---

[1] See the summary of this paper in the journals *L'Union Médicale* and the *Bulletin Général de Thérapeutique.*

In considering, then, on the one side, the consequences so grave of the affection in question, and on the other side, the complete and durable success with which we are able to combat it, we think it our duty to call general attention to this disease, so much the more that it is met with very frequently, and that, in spite of the striking symptoms of these pharyngeal tumours, the true causes of the illness are generally sought for elsewhere to the great detriment of the patient.

Historical.—The adenoid tumours of the naso-pharynx have been investigated by Czermak in his early rhinoscopic experiments, and his discovery of them took place under the following circumstances.[1]

In executing the catheterism of the Eustachian tube in a case of otorrhœa, Czermak experienced very great difficulties every time he tried to blow air into the drum of the left side, which, on the contrary, he succeeded in doing easily on the right.

He ascertained by the rhinoscopic mirror that the beak of the catheter entered well into the orifice of the right tube, but on the left the instrument could not be seen owing to the narrowness of the parts. "There were there," says he, "two pathological swellings of the mucous membrane developing themselves in front and above the pharyngo-palatine arch, which extended itself to the neighbourhood of the opening of the left Eustachian tube."

"These tumours, of which one part resembled in form a cock's comb, and whose base was the lateral wall of the pharynx, were enclosed between the posterior wall of the pharynx and the soft palate, which they compressed a little to the right."

After Czermak, Türk and Semeleder have both observed tumours in the naso-pharynx of various forms.

Our own contribution, already mentioned as published in 1865, contains a part of the results of our personal studies, and amongst other things, there is to be found in that paper a report of five cases of these tumours observed by us in Paris from 1863 to 1865. The following case may serve as a specimen of these:—

1. *Observation.*—M. L. B., fifteen years of age (in 1864), very lymphatic, and very tall for her age, has been afflicted for a long time with a chronic catarrhal inflammation of the nose, of the pharynx, and of the middle-ear. Both nasal passages, as also the two ears, are affected, and there exists on both sides a very considerable deafness, at the same time with very distressing tinnitus of a buzzing character. Nasal respiration hindered, mouth continually wide open, salivation abundant, pronunciation defective,—above all, for the consonants "m" and "n," which the patient replaces by "b" and "d." Neuralgia of the head very frequent and very prolonged.

Besides the usual symptoms of a catarrh of the nasal cavities and of the tympanic cavities, the following are the most salient facts as obtained by an examination of the patient:—The two drumheads are extremely thin, and very concave. On both sides are to be seen the handle of the malleus, and by the transparency of the membrane, the lower branch of the incus also.

---

[1] See his book *On the Laryngoscope*, page 41. 1860.

As to the hearing distance of the patient, the watch is heard on the right side at a distance of $\frac{2\text{ c. m.}}{60\text{ c. m.}}$ on the left $\frac{2\frac{1}{4}\text{ c. m.}}{60\text{ c. m.}}$ The ticking of the watch is well perceived in contact with the bones of the skull.

The posterior wall of the pharynx is covered with granulations. The rhinoscopic examination demonstrates the existence of a very singular tumour in the naso-pharynx, of a pale rose colour, about 25 mm. in breadth and 12 mm. in length. Its lower edge is lobulated and notched like a cock's comb. It is inserted above the posterior openings of the nasal passages, hiding the upper part of these openings, but no connexion exists in reality between the tumours and these two cavities. These tumours, in so far as visible in the rhinoscopic mirror, show themselves to be entirely filled with little horn-like elevations, which are very much enlarged and covered by masses of extremely compact secretion.

It is impossible to recognise the guttural extremity of the right Eustachian tube or its mouth; and by repeated examination it is not possible to see clearly in this region, it presents so many excrescences and depressions, alternating the one with the other. Nevertheless, catheterism and Politzerization succeed perfectly in proving that the tube is permeable. Catheterism is practised without any hindrance on the left side; and on looking at the same time, by the help of the rhinoscope, one sees the beak of the catheter penetrating into the orifice of the tube, what cannot be observed on the right.

We will now complete the observations on this case by relating briefly the consequence and the end of it, and in stating in what manner we have acted in order to effect the complete cure of the troubles caused by the above affection of the naso-pharynx.

Some time after the publication of our *mémoire*, the patient, in raising the soft palate in an unusual manner, whilst we were inspecting the bucco-pharynx, exposed to view a very resisting plate-like portion of tissue, of the size of a franc-piece, projecting from the middle of the posterior wall of the bucco-pharynx.

The patient was treated with gargles and naso-pharyngeal injections containing alum; besides that we used catheterism, combined with injections of astringent solutions, into the Eustachian tubes and into the tympanic cavity. Strengthening regimen, the use of sulphur waters, sea-bathing, etc., continued for a long time, maintained the general health and the hearing in a relatively satisfactory state, but a complete cure could not be obtained by these means. A more energetic treatment then became necessary on account of the occurrence of an acute attack of otitis med. pur.

of the left ear, followed by the perforation of the drum, and by a purulent discharge. The usual means sufficed to bring about very quickly the cicatrization of the perforation and the cessation of the discharge. Then, after some time, during a complete and prolonged interruption of all treatment, an abscess came in the interior of the left mastoid bone, with its accompanying dangerous symptoms, which rendered the perforation of this bone necessary to give exit to the pus which had formed in its cells.

After the cure of this incidental malady the absolute necessity of attacking the evil at the root showed itself. This was done as follows: With a pair of forceps the tumour, shaped like a cock's comb, was removed, and the disappearance of the other growths in the pharynx was effected by repeated cauterizations. Since then the hearing has remained not only perfect, but it has appeared to us, by comparative trials, to exceed even the average acuteness.

Since the removal of the tumour all troubles which afflicted the patient as the outcome of obstructed nasal respirations have gradually disappeared.

The history of this case, which is a typical one of adenoid tumours of the naso-pharynx, is exceptional in this respect, namely, that the disease of the middle ear, which arises sometimes in the course of these cases, seldom invades the cells of the mastoid bone.[1]

(To be continued.)

ARTICLE XI.—*Note of a Case of Spasmodic Contraction of the Lower Uterine Segment during the First Stage of Labour.* By ANGUS MACDONALD, M.D., Lecturer on Midwifery and the Diseases of Women and Children in the Medical School; Physician and Clinical Lecturer on the Diseases of Women, Royal Infirmary; and Physician to the Royal Maternity Hospital, Edinburgh.

MRS C., residing in Canongate, Edinburgh, was confined for the fifth time on the evening of the 16th December 1875. Mr, now Dr John Osbert Wilson of Huntly, who was at that time a pupil of mine at the New Town Dispensary, was summoned to attend her.

On his arrival he found that, though the labour pains were severe and the outer os of the cervix half dilated, with the bag of membranes protruding through it, it was impossible for him to make out any presenting part, even after he had made repeated endeavours to do so.

He accordingly called for me at 8.45 P.M., after which we went together to the patient's house, arriving there at 9.30 P.M.

---

[1] Meyer, Ueber adenoïde Wucherungen in der Nasenrachenhö.—*Arch. d'Otologie*, 1873-1874.

On vaginal examination I found, as Mr Wilson had stated, that no presenting part could be reached. The examination, indeed, led to very peculiar results. Immediately above the cervical segment, which was half dilated and easily dilatable, the lower uterine segment was felt to project or bulge in a peculiarly rigid or shelving manner from before backwards, so as to close in the anterior half of the pelvic inlet. Posteriorly a similar condition of the lower uterine segment existed. The rigidity of the parts was so great that it was impossible to say whether the head or the side of the child was behind the uterine wall.

On external manipulation the uterine tumour felt normal in shape and direction, except perhaps that it was fully more rounded than usual; but there was no evidence from external palpation that there existed a transverse presentation.

I made repeated trials to make out the presenting part, but utterly failed. The perineal and levator ani muscles, as well as the lower uterine segment, were observed to be thrown into a condition of intense spasm by every attempt to perform a vaginal examination, and this circumstance added greatly to the existing difficulty of making a diagnosis of the presentation. But independently of this complication the lower uterine segment was so rigidly contracted that it was simply impossible to feel anything through the walls of the organ.

I now put the patient deeply under the influence of chloroform. The spasm of the perineum and of the lower uterine segment disappeared at once, and I was able to feel behind the membranes at the brim a small head presenting. This observation was made and confirmed by Mr Osbert Wilson. The membranes were now ruptured artificially, giving escape to a considerable amount of liquor amnii. We then waited for some time in the expectation that a pain or two would expel the head.

After delaying a considerable time, on again examining during a pain I perceived that the contraction of the lower segment of the uterus was such that the outer os and the cervical cavity were flaccid during a pain, whilst the inner os was closely shut by the rigid belt of uterine fibres powerfully contracted above it. During each pain it was impossible to feel any presenting part. Instead of the head being depressed by the uterine action, it was very distinctly elevated.

We now allowed the labour to proceed uninterfered with a considerable period longer, but as no progress was being made I ultimately resolved to chloroform the patient deeply, and deliver by version. I was encouraged to do so by having already found that chloroform subdued the spasmodic contraction in the perineum and uterus.

After anæsthetizing the patient there was little difficulty in passing the thumb and forefinger through the internal os uteri, and that was all that was required, as the knees of the child were found near the internal os uteri towards the right, the presentation being a vertex in the left occipito-anterior position. The right foot was brought down with ease and version completed.

After version was effected the child was observed to lie with the dorsum to the right and backwards, but under the influence of the pains and the mechanical effects of the genital passage as the body was pushed through the pelvis, the dorsum of the child rotated to the right and forwards, thus illustrating the truth of Fritsch's[1] views that the rules respecting the choice of a foot in turning, framed with the object of throwing the dorsum of the child anteriorly, are quite superfluous.

There was slight difficulty in getting the shoulders disengaged, not, however, apparently on account of any persistence of the spasm, but because the patient at the moment was only partially under the influence of the chloroform, and struggled a good deal. The child was accordingly born semi-asphyxiated, but quickly came round and cried lustily.

The placenta was expelled spontaneously about fifteen minutes after the birth of the child. There was no tendency to post-partum hæmorrhage.

We ascertained that this patient was the subject of epilepsy during the periods between her pregnancies.

Although irregular and spasmodic contraction of the lower uterine segment in the immediate neighbourhood of the internal os uteri is common enough in connexion with the second stage of labour, and more especially in cases of breach presentation, primary or induced, and, farther, although it is a comparatively frequent occurrence during the third stage of labour, forming then one of the chief causes of retained placenta, the accident is very rare, indeed, in my experience unique, in connexion with the first stage of labour.

I have therefore deemed the case of sufficient importance to warrant me laying before the Society the above brief record of it, believing that, if for no other reason, the rarity of its occurrence would of itself make the account of the case interesting.

Everyone who has frequently performed the operation of turning is well aware of the trouble that is occasionally experienced in getting the after-coming head through the spasmodically-contracted lower uterine segment, and is able to refer to cases in which healthy children have appeared to have been lost in consequence of the delay to delivery occasioned by this accident.

Likewise, also, every accoucheur of experience has met with numerous cases that have given him trouble, and have caused his patients serious danger from hæmorrhage, and delay arising from the same cause during the third stage of labour.

But it is allowable to assume that, under such circumstances, there has become operative during the second or third stage, either

---

[1] *Archiv für Gynäkologie*, Bd. iv. s. 481.

spontaneously or in consequence of mechanical or medicinal treatment, some irritative influence or influences which have caused the lower uterine segment to contract irregularly. In the case under consideration it is impossible to imagine that any cause *ab extrâ* determined the irregular uterine contraction, as this supervened before the waters ruptured, and, indeed, before any interference whatever had been taken with the course of the delivery.

In the farther discussion of the case we propose to consider briefly, 1st, what was the exact nature of the irregular contraction; 2d, how it was most probably brought about; and, 3d, what is the best treatment to adopt in such circumstances.

1st, It is evident from the fact that no presenting part could be felt during the pains, and that the lower part of the uterus felt at the same time hard as a deal board, that the spasmodic contraction did not affect merely a limited band of circular fibres surrounding the internal os uteri. The irregular contraction clearly involved a considerable amount of the lower part of the body of the uterus, and it was, moreover, powerful in its nature.

But it appears to me nearly equally clear that the upper part of the body and fundus did not contract with corresponding force, for if such had been the case the head would not have so distinctly receded during the contractions as it was observed to do, and it further appears to me that even the child could scarcely have escaped from injurious pressure after the waters ruptured, if the contraction had been both severe and general over the entire body and fundus. It is to be noticed that the contractions were allowed to continue some considerable time after the membranes were ruptured. Indeed, it would appear that here, as in the third stage of labour, the common term hour-glass contraction might be advantageously replaced by that of hour-glass relaxation. For in the latter case the fact that we so very frequently find the placenta on the distal aspect of the contracted area, and still unseparated, proves beyond reasonable question that the part of the uterus beyond the contracted portion is in a condition more allied to paralysis than to spasm.

It would thus appear that in this case the lower uterine segment was thrown into a condition of powerful contraction, whilst the fundus and upper part of the body were by no means contracted to the same amount—in fact, were probably little contracted.

That in speaking thus of the effects of spasm of the inner os when combined with powerful contraction of the body and fundus, I am not heedlessly theorizing is proved by facts, which show that the most serious injuries to the child may arise in connexion with spasmodic contraction of the fibres in the neighbourhood of the internal os uteri, provided that the body and fundus act powerfully at the same time. This is clearly demonstrated by the record of a case lately reported by Dr J. Veit in Bd. iii. s. 253, *Zeitschrift für Geburtshülfe und Gynäkologie,* in which two severe fractures of the child's skull were found to have resulted from spasmodic contraction of the uterus, the result of the early administration of the ergot of rye in a case of extremely rigid cervix in a primipara, although the pelvis was perfectly normal.

The spasmodic condition of the internal os uteri was in this instance shown to have existed in a high degree by the presence of a marked depression passing across the thorax of the fœtus obliquely downwards from right to left, and dividing the body into two distinct portions. The skin of that portion of the child's body above the line was coloured deeply red, whilst that situated below the line was completely blanched, indicating that the latter portion had been continuously subjected to severe pressure, whilst the former had been relatively less pressed upon. Of course the position of the child's body above the depression occasioned by the internal os uteri would have been only subjected to the pressure of the cervical segment of the uterus, whilst that below the depression would have the entire force of the musculature of the body and fundus spent upon it. Hence the blanched appearance of that part of the child's skin.

2d, As to the usual causation of spasmodic stricture of the fibres in the neighbourhood of the internal os uteri, Spiegelberg, in his classical work on midwifery, sec. 422, says :—" The causes are the escape of the waters at the commencement of the delivery, or, indeed, independently of this, in breech and transverse presentations, ill-timed traction upon the presenting parts, undue irritation of the muscle generally, the improper administration of ergot of rye, exposure of the lower half of the body to cold, and also metritis. The same causes continue to operate in the third stage of labour, only there falls to be added to them as a special source of irritation to the sphincters, the traction on the navel-string in case the placenta is not completely separated, or for other reasons is contained within the uterine cavity."

In this group of causes, and it is a very exhaustive one, and embraces most of those given in works on the subject, I can find nothing whatever to meet my case. I think, moreover, as already stated, that in the case recorded by me the irregular action was not confined to the circular band of fibres that surrounded the inner os, but was more generally distributed over the lower uterine segment.

At any rate, neither early escape of waters, abnormal presentation, administration of ergot, nor any other interference with uterine action by medicine or manipulation, could be blamed for the peculiar results in the present instance. It therefore appears to me evident that some other cause must be sought for to explain the strange phenomenon in connexion with this delivery.

This cause, so far as I can judge, is nowhere to be found except in the peculiar condition of the patient's nervous system, which we may fairly assume to have been predisposed to irregular manifestations of force when we know that the patient was a chronic epileptic. It is farther observed in the record of the case that the mere stimulus of a vaginal examination was sufficient of itself to throw the perineum into such a condition of spasmodic contraction as rendered it nearly impossible to obtain any information from the examination until the patient was deeply anæsthetized.

It would, therefore, appear to me that the predisposing cause in this case was a neurosis affecting the vagina and the lower part of the uterine body, but not extending to the upper ranges of the body or to the fundus uteri, and which seemed to act in such a manner, on slight stimulus, as to throw the parts within its reach into a condition of spasmodic contraction. The pressure of the head during a pain against the internal os would appear of itself to have been sufficient to start this spasmodic condition, or, in other words, to have probably acted as the proximate cause of the spasmodic condition.

I am well aware that it is frequently said with some truth that the nervous system is the refuge of the destitute, meaning that if we can find no explanation of a difficulty, we are extremely apt to rest satisfied with referring it to irregular nervous action, when we would be acting more in consonance with truth by confessing our inability to explain the unknown cause. But at the same time, a fear of this kind must not frighten us from grappling with a difficulty, nor does it warrant us in neglecting an evident nervous explanation when that is obvious, as I think it was in the present case.

The state of matters in the present instance, if my view is correct, is therefore analogous, in some degree at least, to a vaginismus. A slight local stimulus is in that case sufficient to throw the vagina and perineum into a condition of painful and powerful spasm.

The main difference, so far as I can see, between a vaginismus and such a condition as I have described in the present case, consists in the fact that the spasm was found to involve a portion of the lower uterine segment as well as the perineum.

It is worthy of remark, and is, moreover, strongly indicative of the strongly-marked difference in physiology and pathology between the neck of the womb and the body of the organ, that no part of the cervix was found to be involved in the spasmodic action which affected the perineal muscles and the lower part of the uterine body.

3d, Then as to treatment there remains little to be said. From what we know of spasmodic contraction in general, and what is called hour-glass contraction in particular, the principles to guide one are, the avoidance of every cause likely to irritate the uterine muscle, especially in operating, whether in drawing down a breech, or in performing the operation of version, and to apply sedative treatment, with gradual dilatation of the spasm, once it has occurred. The sedatives may be various, opiates, chloroform, and chloral giving good results. In the present instance there was no irritative influence to remove or avoid. The spasmodic condition readily and completely yielded to the tolerably deep administration of chloroform.

Had I had forceps by me I daresay I should have preferred to use them, as there was undoubtedly some risk in case the stricture should, notwithstanding the chloroform, impede the safe delivery of the child by forming itself round the neck during extraction of the fœtus. But version proved to be the readier method of the two, and the result justified me in performing it. There was no difficulty experienced in getting the head through the pelvis.

Part Second.

THE BOSTON SOCIETY FOR MEDICAL OBSERVATION

REVIEWS.

Études expérimentales et cliniques sur les Traumatismes Cérébraux. Par Le Dr H. DURET. Tome I. : Paris, 1878.

THIS is a work which, if continued in the same spirit as it has commenced, will certainly rank as the most classical reference we possess on the subjects with which it deals. It is quite reassuring, amidst the wilderness of so-called scientific treatises on medical subjects, which would frequently require a Diogenes and lantern to discover their scientific merit, to meet with a work so full of thought, and reasoned out on such strictly deductive principles. If some of our quasi-scientific medical authors would follow the example so well set in this complete and exhaustive series of investigations, we should have fewer complaints of the incompatibility of scientific investigations and actual practice. Thoroughly scientific in the method in which the subjects are handled, we find that all through even this lengthy first fasciculus of M. Duret's book there is no part which is redundant; there is no portion of the treatise that one cannot take up and not derive a great deal of information from. There is another feature which is to be recommended in M. Duret's work, in the fact of there being less of the "padding" which has become the prominent feature of modern German publications on medical subjects. We have not to wade through a "slough of despond" before arriving at the glorious climax of the subject. It is undoubted that many of the ancients were very shrewd observers, so far as their unaided senses allowed them, yet is this any reason why in scientific treatises on modern medicine they should invariably be shown up in the usual order, and quoted as authorities on subjects which, with the then existing ideas on the rudiments of medicine, must have been totally incomprehensible? We have little doubt that if Hippocrates were to return to earth at the present time he would blush in acknowledging all the merits that have been imputed to him. Life is too short to have this sort of thing forced upon us in every branch of medical literature. We are "scaling Niagara" at present, and the shortest language in which the story can be told seems to us that which is best provided that it is *exact*.

We find the object that the author has in view in the introduction. It is intended chiefly as a practical guide to surgeons in the diagnosis and treatment of injuries of the head, and certainly we should recommend all practising surgeons, if they have any desire to shake off mere empiricism and idle theorizing, to study this work very carefully. Concussion and compression of the cerebro-spinal centres are the two subjects treated of in this part of the work, the first chapter being devoted to the former, the second to the latter. The author, at the outset, states that he cannot accept the current doctrine of concussion being due to shaking of the cranial contents. The shaking implies an oscillation, and the oscillation a displacement of the nerve elements, and yet neither to the naked eye nor microscopically is any such dissolution perceptible. He believes that such a theory is untenable on account of the incapacity of the cerebral contents to be influenced by vibrations from violence applied externally. The cranium is like a hollow spherical vessel filled with water. If it contains no gas, the water within is not set in vibration by any influence applied outside. The key, however, to the comprehension of what M. Duret subsequently advances as the cause of concussion symptoms is to be found in the following paragraph:—

"The cranium is a shut cavity containing incompressible liquids and a soft nervous mass; there exists no void. Can a displacement of the parts take place under the influence of concussion? The reply to this question is affirmative, if the cranium is elastic and compressible." He then goes on to confirm M. Felizet's experiments, showing that if the cranium, while it is fresh, be allowed to fall from a height, a very considerable amount of elastic depression is produced.

He relates some very interesting observations on the normal tension of the cerebro-spinal fluid. He states that it is greater than that of the atmosphere, being equivalent to a column of mercury, ·735 to ·787 of a centimetre in height. The cause of this greater tension is to be found in the blood-pressure, for if this be taken away, as by opening the carotid artery, or if an animal be killed by bleeding, it descends to zero. It is also evident that the tension of the cerebro-spinal fluid must be the same at different parts—at the base of the brain, in the ventricles, and in the spinal cord. If a severe blow, therefore, be inflicted on the cranium, a certain amount of depression is produced which is sufficient to drive some of the cerebro-spinal fluid out of the cephalic ventricular system. If the blow is slight, the energy conveyed to the fluid may be dissipated on the elastic ligaments of the spinal cord; but if greater, he shows conclusively from his experiments that the most deleterious results are produced on the medulla oblongata and neighbourhood. The fluid leaves the cerebral ventricles, traverses the aqueduct of Sylvius, and then emerges on the fourth ventricle. Here it meets with some resistance, and gives rise to rupture of the aqueduct of Sylvius, or laceration of some of the parts in the vicinity, accompanied by hæmorrhage. The injury which the medulla oblongata suffers from this pressure is the immediate cause of the symptoms characteristic of concussion. It is here that so many important centres lie, and it is here that the fluid in its passage outwards seems to meet with most resistance. The tension of the cerebro-spinal fluid being the same throughout the whole cerebro-spinal system, a ready explanation is also afforded of how it is that an injury of the head may produce a lesion of the cord. The energy propagated from the cranial cavity downwards, if greater than the counteracting elasticity of the ligaments of the cord, will, and does produce injuries in the cord similar to those seen in the fourth ventricle.

The second chapter deals with the mechanism of encephalic compression. Contrary to the generally-received teaching, M. Duret states that the cranial contents are subject to atmospheric pressure acting through the bloodvessels. Leyden has demonstrated that the pressure is positive, and equivalent to a column of eleven centimetres of water; and, further, that it varies with the respiratory and cardiac movements. One point seems to be very well brought out in the author's experiments, which might explain certain phenomena of constant occurrence where a certain amount of pressure has been exerted on the cerebrum, but where that has not been excessive. It seems that considerable compression of the cerebrum may be made without producing any deleterious influence, provided it be brought on gradually; and the explanation which the author gives is to be found in the counteracting elasticity of the ligaments of the spinal cord. This allows of the escape of some of the cerebro-spinal fluid contained within the cranium, and forces it into the spinal cavity; and if the rapidity with which the compression is made is not great, no very marked symptoms result. The cause of the phenomena noticed in compression, he explains on the following grounds: The cranial cavity being filled with, practically speaking, incompressible matter, it stands to reason that when the tension of the cephalic contents becomes greater than that of the blood entering it, some reduction in the amount of blood passing into the cavity must ensue. This can be proved experimentally by observing the amount of blood which escapes from the internal jugular vein when pressure is exerted on the cerebral hemispheres. As the compression deepens the blood issuing from the vein becomes markedly less in quantity, and a fall in its tension may be measured by means of the hæmodynamometer. When compression is made artificially on the cerebral hemispheres, the arterial tension rises enormously at first, even more than in poisoning by strychnia, as the author shows by numbers of charts. At a later period, however, as also demonstrated in these charts, the tension falls considerably, and, curiously enough, this corresponds with what Couty found in the injection of lycopodium powder into the cerebral arteries, and where anæmia resulted from stoppage of the blood-current in the small branches.

Duret, accordingly, concludes that the immediate cause of the symptoms in compression is cerebral anæmia produced by an interference with the arterial blood-supply on account of the increased tension imparted to the cerebro-spinal fluid.

The experiments made in the working out of these results are very numerous, and appear to have been conducted with the greatest care, and the lesions induced in the neighbourhood of the medulla oblongata by external violence are beautifully illustrated in a series of chromo-lithographs.

In the *résumé* which the author gives of the results he obtained in his experiments on compression, he states that, apart from those caused by local injury, he found the following phenomena accompanying different degrees of compression :—

"*1st*, With a slight amount the course of the blood within the cerebrum was not appreciably modified; the absorption of a part of the spinal fluid, the extensibility of the vertebral ligaments, and the relaxation of the venous sinuses, suffice to provide space. No general nervous phenomena are observed.

"*2d*, With a mean degree of pressure the compressed vessels allow less blood to penetrate into the nervous centres; there is more or less distinct anæmia of the organs presiding over different functions. As a result there are noticed cerebral manifestations (somnolence, muscular depression or exhaustion, obtuseness or loss of sensibility), symptoms referable to the medulla oblongata (slowness of the pulse, laboured respiration, and lowering of the temperature), and spinal symptoms (diminution of reflex acts, and of the vascular and muscular tones).

"*3d*, With a still greater amount of compression the circulation in the nerve-centres is almost completely suspended; there is then coma or sleep of the upper nervous centres, there is considerable impediment to the carrying out of the functions of the medulla oblongata, the pulse becomes very slow, respiration laboured and stertorous, with progressive and considerable lowering of the temperature; there is, at last, complete abolition of spinal functions, that is to say, muscular depression and paralysis, complete atony of the vessels, and rapid disappearance of reflex acts.

"*4th*, When the amount of compression has far outweighed the arterial tension the stoppage of the circulation in the nervous organs is complete, and death follows."

The Principles and Practice of Surgery: being a Treatise on Surgical Diseases and Injuries. By D. HAYES AGNEW, M.D., LL.D., Professor of Surgery in the Medical Department of the University of Pennsylvania. Profusely Illustrated. In Two Volumes. Vol. I. pp. 1062. J. B. Lippencott & Co., Philadelphia, 1878.

WE have as yet received only the first volume of this immense work. It is taller than Dr Gross's first volume by a quarter of an inch, and has nearly 20 pages more and 300 more illustrations, and it is heavier than any English octavo on surgery in our possession. Truly a *magnum opus.* And yet, looking sadly at its vast extent, and with wrists strained in a vain endeavour to support its weight, the impious thought has entered our mind—Would that it were possible to hold the most of it as read! A glance shows the gist of it; we recognise with mingled horror and delight the time-honoured woodcuts, from the bat's wing after Paget (Fig. 4) to the hyperostosis of the tibia (Fig. 891). We know the thermo-electric experiments of Simon and Montgomery, and Dupuytren's views on ensheathing callus are classical. Why, we again ask, must every teacher give us this all over again at such enormous length? Let one big system for each hemisphere of English-speaking men be accepted as a standard for the library, and let each surgical teacher then, if he likes and can do it, put into a compact readable form the substance of the principles which he wishes his students to shape their practice on. In the vast volume in our hands, or rather on our table, we find long extracts from museum catalogues with woodcuts, pages from instrument-makers' advertising sheets, also with woodcuts, chapters on bandages and apparatus,—all good in themselves,—but in these days, when men will not be men of one book, out of place and unnecessary. It is all excellent, accurate, and complete, but it is wearisome, and, for a student preparing for examination, far too long. For a practitioner it may prove a treasure, *if* he is only to have one book on surgery in his possession,—scarcely otherwise. It must have required great labour to produce it, but no genius, not even originality.

It is so far up to date. Antiseptic surgery is noticed with commendation. There is a woodcut of a steam spray-producer, and an account of the bandages, but not a hint implying either the recognition or the comprehension of the principle.

Great industry, considerable learning and research possibly, and large personal surgical experience and success, may be predicated of the author, but so far as this volume shows, we see little evidence of even the assimilative power so necessary for first-rate teaching, and none whatever of the creative genius required of those by whom science is to be advanced.

Good paper and type, woodcuts not worse than usual, but many of them old friends, and very careful press-reading, with a full index, are almost guaranteed by the name of the eminent firm who are the publishers.

The Collected Works of Dr P. M. Latham, edited for the New Sydenham Society. By ROBERT MARTIN, M.D. Cantab.; Fellow of the Royal College of Physicians; Consulting Physician to St Bartholomew's Hospital. Vol. II. (with Index): London, 1878.

THIS second and concluding volume is quite equal to its predecessor. It contains Dr Latham's lectures on subjects connected with Clinical Medicine, a small work of much and abiding value, but now long out of print; it contains his well-known account of "the disease lately (1823) prevalent at the General Penitentiary;" a paper read before the College of Physicians in 1832 on "the Use of Opium in Fever; General Remarks on the Practice of Medicine; and a Word or two on Medical Education" at a much later period of his life.

The editor has enriched the volume now before us with an able and very interesting preface of some thirty pages, which furnishes the reader, among other things, with an instructive account of the medical history of the General Penitentiary subsequent to the date of Dr Latham's paper already referred to. The latter still reads like a romance, depicting an epidemic characterized by what really seemed at the time anomalous and incongruous symptoms, very perplexing and puzzling to Dr Latham, to Dr P. M. Roget, and to other eminent physicians who were eventually associated with them in investigating it,—an epidemic which also caused much anxiety for many months to the public at large, to Parliament, to the ministry of the day, but which most readers in our own day will be able to interpret pretty accurately, even before they have read Dr Martin's luminous preface.

With a friendly and brotherly eye to the reputation of his late colleague Dr William Baly, who for many years was physician to the Penitentiary, and performed the duties with brilliant success, Dr Martin quotes extensively from that gentleman's masterly papers on "Dysentery" and the "Prevention of Scurvy in Prisons, Pauper Lunatic Asylums, etc.," with the purpose of showing what a flood of light was thrown by him on the subject so conscientiously, yet partially investigated by Latham and his compeers twenty years before, and what important additions were thereby made to our ascertained knowledge in a department of hygiene and state medicine previously shrouded in darkness. The points—as it appears to us—which Baly mainly cleared up, were—(1), that the dietary of the prison was not defective in the absolute amount of nutriment, but in the absence of a particular article of food — the potato; and (2) that there was a malarious influence connected with the site of the building, not sufficient to affect injuriously the free and comfortably environed inhabitants of the immediate neighbourhood, but still capable of producing the ordinary effects of malaria among prisoners confined for long periods—as was usual in those days—and living under the influence of other depressing circumstances. Dr Baly, moreover, suspected that the use of the Thames water for drinking purposes might be a deleterious factor in the case, and even went the length of having an Artesian well of pure water opened in Trafalgar Square as a substitute. An experiment with this source of supply, as contrasted with Thames water, was carefully instituted on a very large scale; but somehow or other—probably from some circumstance inadvertently overlooked—his suspicion was not confirmed by the results. It is interesting to know, however, that since the use of Thames water was finally abandoned in the year 1854, typhoid fever in the Penitentiary has virtually ceased. And so it may be truly said, to use the words of Dr Martin, that "this cause working together (it can hardly be doubted) with the beneficial effects of a more scientifically assorted dietary, shorter periods of confinement, better local drainage, and the improvements in the surrounding district," have rendered this great general prison exceptionally salubrious and free from disease.

We cordially recommend Dr Latham's original account and Dr Martin's preface as interesting records of great sanitary difficulties patiently investigated and eventually solved and provided against with distinguished success.

Now that Dr Latham's works are published in a form so attractive, through the care of an editor in full sympathy with their author, we congratulate all students of medicine on the possession of a really good book, differing widely in many respects from the hastily written and often, we fear, ephemeral productions with which they are too familiar.

On Diphtheria: its Nature, Varieties, Pathology, Diagnosis, and Treatment. By Robert Hunter Semple, M.D.; Fellow of the Royal College of Physicians of London; Physician to the Hospital for Diseases of the Throat and Chest, and to the Bloombury and Eastern Dispensaries of London. *Second Edition.* Pp. 72. London: 1879.

This is a second edition of a well-known little treatise consisting of two memoirs of the highest pathological and practical value. Its reappearance at the present time is peculiarly seasonable—seasonable, because it had ceased to be procurable in the book-market—and seasonable, likewise, because its instructive pages remind us that the author fully understood, entirely adopted, and ably advocated Bretonneau's views as to the nature of diphtheria, at a date when they were very little known to the profession in Great Britain, and were certainly not believed in by British medical leaders.

The author's reasons for reprinting are thus stated:—"This little work," he says, "is again presented to the profession for the simple reason that the first issue is exhausted. It is reprinted exactly as it stood when it was first written, with the exception of a few verbal and typographical corrections, because I have deemed it only fair to myself to show that the doctrines which are now beginning to be recognised on the subject of diphtheria were published by me many years ago. Nothing, therefore, is altered or retracted; but inasmuch as more information has been gathered, and more confirmation has been afforded of the principles laid down, some new matter has been added in the shape of footnotes, and in an appendix, and many references are given to British and foreign authorities on the subjects discussed. Most of the matter contained in the appendix, including the section on Treatment, were written several years ago, but were not published."

The First Memoir—published in 1871—treats of, *first*, diphtheria and the diseases allied to it, or which may be mistaken for it; *second*, the history of diphtheria; *third*, the pathology of diphtheria; *fourth*, the diseases for which diphtheria has been, or may be, mistaken; and, *fifth*, the relations between croup and diphtheria. The Second Memoir—published in 1872—takes up the then opening and now closing British controversy on the identity or duality of Croup and Diphtheria. The appendix contains some additional remarks on the "Croup and Diphtheria" question, and afterwards discusses the German views on diphtheria and croup—the fungous or bacterial theory of diphtheria—the Florentine epidemic of 1862–1872, and concludes with a short yet very comprehensive chapter on the treatment of the disease.

Though many of the details contained in the subjoined paragraphs have a personal application to the author, they unquestionably possess an historic literary value in relation to the *rise and progress* in Great Britain—we might now almost add the *triumph*—of the views of Bretonneau.

"About the year 1857, it began to be mentioned in medical and general circles that a new disease had made its appearance in some parts of France, and especially at Boulogne, where it had attacked and carried off some of the English visitors. Before the alarm and surprise occasioned by this unwelcome news had subsided, it was announced that the same disease had appeared, although in a sporadic form, in many parts of Great Britain, beginning near the coast of England, as in the counties of Kent, Essex, Suffolk, and Norfolk, and gradually extending to the interior of the island. At first, it was thought by the medical profession that the disease was not really new, but only a severe form of some well-known complaint, and I can testify from actual conversation with some distinguished physicians of that period, that the existence of any special or peculiar malady as a visitor to this country was almost entirely disbelieved. But so many cases continued to present themselves, that attention was at length awakened to the subject; and in the year 1858, I was appointed to collect together and to edit, for the New Sydenham Society, whatever memoirs were in existence on the subject of this peculiar affection, attacking the throat, and exhibiting an extraordinary and rapid fatality in many cases, and which had spread alarm over the country.

"On entering upon the task, I found that the literature of the subject was exceedingly meagre; and unquestionably none of the English text-books on the Practice of Medicine, existing at the date to which I allude, made any mention of an affection corresponding in its features to the newly described epidemic; and even among the works specially devoted to the diseases affecting the throat and air-passages, no descriptions could be found which exactly represented its symptoms and appearances. Among scattered monographs it is true that some epidemics were described, which bore in many respects a resemblance to the new disease, and some of their symptoms were noted; but, as will be hereafter mentioned, the descriptions were too vague to be accepted as accurate representations of any special affection, or they were so obviously superficial and imperfect as to merit very little confidence. In fact, it was only in France where anything like accurate definitions of the unwelcome visitor had been laid down; and subsequent information proved that the French physicians had really understood and described a disease which had existed some years on the other side of the Channel, but which had not, up to the year 1858, been known, or at least been recognised, as a distinct malady in our own country.

"The most important, and the first in point of time, of the French contributions to our knowledge of this new disease, consisted of a series of memoirs by Bretonneau, a physician practising at Tours, who had observed several epidemics of the malady which had occurred in that town. So little, however, were Bretonneau's researches appreciated or understood in this country, that not a copy of his work could be procured for the purpose of my edition from any of the usual sources of supply; none of the foreign booksellers had the book, nor were they able to procure it; and even the French physicians in this country to whom application was made had no copies in their libraries. It was only by the kindness of the Royal Medical and Chirurgical Society that I obtained the loan of the single copy which its library possessed, for the purpose of my collection of memoirs. The College of Surgeons of England has a copy of Bretonneau's Memoirs, but I very much doubt whether a copy exists anywhere else among the public or private libraries in this country; and, as far as I know, the collection of 'Memoirs on Diphtheria,' edited and translated by me for the New Sydenham Society, and published in 1859, constitutes the first complete contribution to the knowledge of the French doctrines on the subject in the British language. During the preparation of that work, however, the study of the newly described disease was pressed upon the mind of the medical profession by its increasing prevalence, and since the publication of the New Sydenham Society's volume, the contributions by British writers to the history of the affection have been both valuable and numerous."

Dr Semple, in conformity with the general opinion of physicians whose opportunities entitle them to come to a definite conclusion on the question, holds that diphtheria is not more rife among the poor than among the rich—not more rife in badly-ventilated, filthy hovels, than in clean, well-aired dwellings.

"Looking," says Dr Semple, "at my own experience, which I believe will be confirmed by the evidence of other physicians who attend large numbers of patients, especially in hospitals and dispensaries, the close, confined, and ill-ventilated abodes of the poor in this metropolis by no means offer any large proportion of cases of diphtheria, while the disease very often develops itself in the open parts of the country, where the hygienic position is unexceptionable. While, too, the poor contribute their supply of cases of the disease, they do so in by no means large proportions; and the better classes, who are surrounded with the necessaries and comforts of life, have often suffered grievously from the ravages of the malady. For myself, I may state that, although I have been engaged for many years in extensive dispensary and hospital practice, and have been watchful to note every case of diphtheria which might present itself, I have seen comparatively few instances among the poorer class of patients, while most of the cases which I have attended have been among the better classes who come under notice in private practice."

Explain it how we may, it is an undoubted fact that hygienical conditions, apparently the best, do not much, if at all, protect localities or classes from diphtheria. It is not a common disease; and yet many notable persons surrounded by all the comforts of life have been its victims. The causes favourable to the development of the disease—the degree and the different ways in which it spreads by contagion—are as yet enveloped in much obscurity. We know, however, that diphtheria has favourite *habitats* in certain districts and in certain houses, that great receptivity of its contagium belongs to particular families, and that it may be communicated from person to person; but we do not know the laws under which it selects its haunts, nor are we acquainted with all the ways by which it is propagated. These interesting problems, now engaging the attention of able inquirers, may occupy us in some future review. For the present we must pass on to other topics.

"The first cases of diphtheria," says Dr Semple, "which I myself observed, occurred at Bagshot, in Surrey, in the year 1858, while I was preparing the volume on diphtheria for the New

Sydenham Society. The chief features of this epidemic visitation were the following, stating the facts in as condensed a form as possible, and noticing both the positive and the negative signs of the disease. The persons chiefly attacked were children; the onset of the malady was insidious; there were none of the usual symptoms of fever; there were certainly none of the distinctive marks of scarlatina; the only distinguishing character on which reliance could be placed was the existence of a peculiar exudation on the tonsils and soft palate, and death was frequently sudden and unexpected—sometimes apparently from syncope. I made *post-mortem* examinations of the cases which proved fatal; and I exhibited the specimens to the Pathological Society, where specimens were also shown by other members. (*Transactions of Path. Soc.*, Vol. X.) Since that time I have seen many cases of the disease, and very many more cases which were said to be diphtheria, but which were not really so."

The passage now quoted shows that for twenty years Dr Semple has been an enlightened clinical student of diphtheria. The views which he then maintained are those which he now holds, and which his writings have contributed to render more generally accepted by the medical profession of Great Britain than they were some years ago.

A footnote at p. 24, added to the present edition, gives the author's views on the "Croup and Diphtheria question," now under professional discussion.

"The identity of the so-called croup and laryngo-tracheal diphtheria is perhaps not even now universally admitted; but the weight of opinion and of authority is very different from what it was in 1871. At that period, to the best of my belief, all the text-books and the standard works on the Practice of Medicine in Great Britain insisted upon the absolute difference between 'croup and diphtheria,' although a few scattered monographs and articles in the medical journals gave expression to an opposite view. Among these latter were papers by the late Dr Hillier, published in 1859 and 1862; and by Dr George Johnson about the same period. I myself, in 1864, in presenting a recent specimen of fatal diphtheria to the Pathological Society, expressed my opinion that the word 'croup' really comprised three different diseases—namely, tracheal diphtheria, infantile laryngitis, and laryngismus stridulus; and that the case of tracheal diphtheria which I presented was identical with what was usually described as 'croup.' The then President of the Society kindly informed me that I was entirely mistaken. The same views which I had expressed were, however, announced by Sir Thomas Watson, in the edition, of 1871, of his well-known *Principles and Practice of Physic*, who therein states his belief 'that croup accompanied by false membranes in the larynx and trachea is always diphtheria.' Sir William Jenner, in the *Lancet*, in 1875, announced his abandonment of the opinion he had formerly held, that 'croup,' was a different disease from laryngeal diphtheria, and he now declared his inclination 'to the belief that there is no such disease as idiopathic, simple, membranous inflammation of the larynx;' and he goes on to state that he thinks 'that the two diseases (membranous croup and laryngo-tracheal diphtheria) are really identical, that the so-called croup is really diphtheria.' Sir John Rose Cormack, in his *Clinical Studies*, published in 1876, adopts the same view and supports it by a number of well-arranged facts and conclusive arguments. Dr Bristowe, in his *Theory and Practice of Medicine*, also published in 1876, thinks that the identity is so well established as hardly to require any elaborate argument. In the latest work on diphtheria, by Dr Morell Mackenzie, in 1879, the author entirely adopts the same view, which indeed he had advocated in his Jacksonian Prize Essay in 1863."—Pp. 24 and 25.

Dr Semple calls attention to the fact that the Registrar-General's statistics are of *no value* in determining the question of the pathology or the relative frequency of diphtheria and croup. He remarks:—"I am aware that the returns of the Registrar-General will give so many cases of *croup* and so many cases of *diphtheria*, as occurring in given periods, at stated times; but in the absence of *post-mortem* examinations, carefully made and recorded, the pathological or diagnostic bearing of such returns is of no value. Scores of children die of laryngitis, tracheitis, bronchitis, and pneumonia; and if they have had what is called a 'croupy cough,' the deaths are probably registered as *croup;* and on the other hand, besides the actual deaths from diphtheria, there is no doubt that many cases of aphthæ, muguet, malignant ulceration of the throat, and even scarlatina, are comprehended in the returns under that term, familiar as it has now become to the public mind." In a footnote to the sentences now quoted from the text (p. 51), Dr Semple thus clenches his statement as to the valueless character of the statistics of croup and diphtheria periodically published by the Registrar-General:—"When Dr Thorne investigated an outbreak of diphtheria in Essex, in 1875, he found that before his arrival all the fatal cases of throat-disease in the neighbourhood were set down as 'croup' in the returns; but after his visit this word disappears from the documents, and 'diphtheria' is substituted. Dr Thorne's tabular statement is now lying before me, and I find in 1875 (three years after my second memoir was published) *all* the infantile throat-diseases are entered as 'croup,' seven out of eleven having died; in the early part of 1876 two of the cases are registered as 'diphtheria and croup;' and after that period I find that *all* the cases—one hundred and fifty in number—are entered as 'diphtheria!' So much for the value of the Registrar-General's statistics as distinguishing between diphtheria and croup."

The frequency with which fatal cases are reported as cases of diphtheria to the Registrar-General is considerable; and the haphazard of their being reported as croup or as diphtheria is extraordinary. We suspect, however, that equally egregious mistakes are being constantly committed by the diphtheria-curers, who go on incessantly encumbering the medical periodicals with their supposed unfailing or seldom failing successes in treatment. There is reason to believe that only a very small percentage of the cases reported as cured cases of diphtheria were cases of that disease; and that many embraced in that small percentage were cases of mild tonsilar diphtheria, which, as a rule, terminate spontaneously in recovery, and do not go wrong even when foolishly treated. The vast majority of the cases of diphtheria which recover are those in which the specific poisoning is slight or moderate, and in which the pseudo-membraneous exudation is confined to the fauces and upper part of the glottis, or at least in which it does not invade the larynx and trachea. Very little light can be thrown upon the therapeutics of diphtheria by recording the recoveries in such cases. The value of our medical and surgical resources in diphtheria can only be ascertained by the careful study of very minute histories of fatal and non-fatal severe cases—histories embracing every detail as to symptoms, food, and treatment, the facts being stated, not in a summary manner from memory, but written with conscientiousness and precision several times daily at the bedside of the patient. The natural course of diphtheria is short, and the progress to good or bad exhibits great varieties in its character, some of which belong to the disease, and some to the treatment. Facts must therefore be faithfully recorded: they must afterwards be studied by the observer and by other clinicians. Unfortunately, diphtheria-curers have not reported their cases in such a way as to admit of much instruction being derived from a study of their reports. General results are roundly stated, illustrated, perhaps, by scraps of the history of a few cases: facts sufficient to form an adequate basis of clinical study are deplorably wanting. Their statistics of the causes of recovery are (speaking in general terms) as valueless as the statistics of the causes of death promulgated by the Registrar-General, to which we above adverted.

Dr Semple only devotes eight pages to the subject of *treatment;* but these eight pages contain a good, though brief exposition of what we ought to do and what we ought not to do. He discusses the *local*, the *constitutional*, and the *surgical treatment;* and then the *after-treatment.*

At one time, Dr Semple, following the old French practice, was in the habit of applying hydrochloric acid, nitrate of silver, and other caustics, with a view to destroy and prevent the extension of false membrane. He is now convinced of their inutility, if not of their injurious effects. He says, nevertheless:—"Local remedies are of very great service in the treatment of faucial diphtheria, and one of the best I believe to be the strong solution of the *perchloride of iron*—

120 grains of the solid perchloride to 1 ounce of water—applied by a brush very freely to the affected parts every three or four hours. This remedy never does any harm; and I think it is efficacious in altering for the better the conditions of the throat, and perhaps in preventing the extension of the false membrane." We have conversed with experienced practitioners, who entertain an opinion quite as decided in favour of the local application of a solution of perchloride of iron to diphtheritic throats, but who use a solution less than half the strength of that recommended by Dr Semple: some employ a strong solution occasionally—say once in eight or twelve hours, using every hour a very weak solution, in the form of a spray, or applied by means of a large camel's-hair brush.

Continuing his remarks on local applications, Dr Semple says:—"Some appear to act by dissolving the false membrane; and among the best of these is *lactic acid*, first proposed by Weber. For the same object other solvents have been recommended and employed, such as *lime water, chlorate of potash, acetic acid, common vinegar*, and even *gastric juice*: these agents may all be useful in separating the false membrane from the subjacent parts. On the supposition that the false membranes may be parasitic in nature, or even that they may form the nidus for the development of cryptogamic forms, various antiseptic and parasiticide remedies have been recommended and employed, such as *carbolic acid* and *sulphur*,—the last of which has been extensively used in Italy, where the parasitic theory of diphtheria has many advocates. I should also mention that *ice*, in small pieces, is always very grateful to the patient; and that in addition to the ordinary method of applying the above remedies, insufflation of powdered alum and chlorate of potash, especially in nasal diphtheria, has been found beneficial; and also irrigation of the affected parts by means of a syringe."

Dr Semple holds—and, without doubt, correctly—that local applications are of little importance as compared with the *constitutional treatment* of the patient. "From the very first," he says, "tonic and alterative remedies should be administered, and depletion in every form should be avoided. The principal medicine to be employed is *iron*, the tincture of the sesquichloride being perhaps the best, used either alone, or in combination with *quinine*."

Dr Semple thus concludes his remarks on the *surgical treatment*:—"In tracheal diphtheria, whether tracheotomy be performed early or late, the issue is always doubtful; though, for reasons already explained, the operation is perfectly justifiable, and is sometimes successful."

The *after-treatment* is concisely and correctly laid down: "The medical measures to be adopted are the careful and continued administration of *nervine tonics*, as iron, quinine, and nux vomica; the supply of *nutritious food*, and the allowance of a moderate amount of stimulants, fresh air, and sea-bathing."

We have only to add, that this second edition of Dr Semple's *Memoirs on Diphtheria* is a valuable and seasonable contribution to the literature of that disease.

Practical Observations on Diphtheria and Erysipelas. By CHARLES BELL, M.D. Pp. 42. London: 1864.

AT the present time, when the literature of medicine—professional and popular—is teeming with papers and little books on diphtheria, we are sometimes apt to lose sight of influential pioneers, from their names not being mentioned by, and being perhaps often unknown to, modern writers. To remark upon this regretable injustice has been suggested to us by the re-perusal, after an interval of many years, of Dr Charles Bell's *Practical Observations on Diphtheria and Erysipelas*, in which the treatment of diphtheria by the "muriated tincture" of iron is as warmly advocated as by any writer of later date. The pamphlet now before us was published in 1864, and is an amplified reprint of a paper which appeared originally in 1861 in the *London Medical Review*. Dr Charles Bell states, in the introduction to this second edition, that he should have been satisfied with the amount of publicity which had been attained by the first, had not his perusal of a paper read by Dr Begbie to the Medico-Chirurgical Society of Edinburgh in April 1862, and the discussion to which it gave rise on that occasion, led him to believe that his mode of treating diphtheria had not received its merited amount of attention. He goes on to say:—"I feel encouraged in carrying this resolution into effect from observing that my views in regard to the nature of the disease are supported by Dr Begbie in his paper just referred to, and by Dr Handyside in his remarks thereon at the meeting of the Society, while my treatment appears to have been adopted by both of these eminent practitioners. It was for the purpose of making this treatment more widely known that I wrote my paper; and as I have now employed it with invariable success in at least thirty cases of diphtheria, some of which were very severe, I can unhesitatingly recommend it to the notice of the profession in general."

Dr Charles Bell was originally led to employ the tincture of the sesquichloride of iron in diphtheria from having observed its great value in erysipelas. His attention was early attracted to his brother's successful treatment of erysipelas by this remedy, and "after many years' experience of its use," he unhesitatingly expresses an opinion in its favour. Dr James Begbie also adopted the treatment of erysipelas by the tincture of the sesquichloride of iron, on the recommendation of Mr Hamilton Bell, the brother of Dr Charles Bell. In a paper read before the Medico-Chirurgical Society of Edinburgh on 7th July 1852, and reprinted (pp. 216–233) in his *Contributions to Practical Medicine*, he says:—"It is not my intention, however, to discuss the merits of opposite modes of cure, or to enlarge on the circumstances which ought to give a preference to one above another. I shall limit these remarks to a notice of the remedy which has recently been recommended to the profession by Mr Bell. Besides the two cases related in the foregoing histories, I have employed the muriated tincture of iron on several other occasions, and in all with marked benefit and success." From an extract which we gave in our number for February, p. 724, from the *Essay on Diphtheria*, by James Begbie, it appears that he, like Dr Charles Bell, was in the first instance led to give the sesquichloride of iron in diphtheria by having acquired in his practice a knowledge of the value of that medicine in erysipelas, as advocated and clinically illustrated by Mr Hamilton Bell. Prior, however, to 1861, the year in which Dr Charles Bell's paper appeared in the *London Medical Record*, the treatment of diphtheria by the sesquichloride of iron had become known and appreciated both in England and in France.

Dr Thomas P. Heslop (of Birmingham) warmly espoused this treatment in a paper published in the *Medical Times and Gazette* for 29th May 1858. Dr Heslop's excellent paper unquestionably produced a salutary and lasting influence on practice. It was not, however, as an absolute novelty that Dr Heslop introduced to the profession the treatment of diphtheria by the sesquichloride of iron —he spoke of it as a somewhat known method which was not generally appreciated. The spirit in which he wrote appears distinctly in the following sentences extracted from the paper just referred to:—"The results of my trials surpassed my expectations. I had no longer to tell my pupils of the futility of all efforts to cope with this newly resuscitated pest, when it assumed a really severe aspect. I no longer entered the consultation-room with the sentiment that the conference would only end in the display of the weakness of the medical art. I frequently communicated my success to my brethren, and earnestly besought them to give a trial of the method, conjoined with which I advised the systematic and persevering administration of alcoholic stimuli and other similar agents. In the middle of December, I thought it right to bring the whole subject under my clinical class at the Queen's Hospital, and it has gratified me to find that the lecture proved of service to the friends of my pupils elsewhere, to whom the facts were communicated. In January, I brought the therapeutics of angina membranacea before the Medico-Chirurgical Society of Queen's College, and adverted to the singular retrogression in our knowledge of this disease, as it appeared in this country. Though so little known now, it was well understood by several British authors a century ago, and by none more ably than by Fothergill. In the *Lancet*—early in December, I think—a surgeon near London reported two cases, treated mainly by the steel-tincture, which recovered. I doubt not others have administered in sheer despair, like myself, the same remedy; but its value is not generally appreciated, and is by most persons denied. My great fear is that this method of treatment will be extravagantly lauded, and that it will be called *specific* by the ignorant, and that on the occurrence of fatal cases under its use, as is inevitable in so virulent a disorder, it will be consigned to the limbo where so many other therapeutical abortions have been thrown."

Dr Aubrun of Paris took notice of the use of ferruginous preparations in the treatment of diphtheria in the *Gazette des Hôpitaux* for 1859, p. 546, in a paper entitled "Réflexions Critiques sur les Observations de Diphthérie Traitées dans le Service de Professeur Trousseau." On the 26th November 1860, he presented to the Académie des Sciences a memoir on the treatment of diphtheria by the sesquichloride of iron, calling it *a new method!* His paper, entitled "*Mémoire sur une Nouvelle Méthode de Traitement de la Diphthérie par le Sesquichlorure de Fer*," duly appeared in the Transactions of the Academy of Sciences, and was widely noticed in the medical journals, particularly in those of France. This publicity caused a more general use of the perchloride of iron in diphtheria, and ever since it has been increasingly relied on by the best French physicians. A good account of Dr Aubrun's memoir is given at p. 764 of the *Gazette Médicale de Paris* for 1860. To prevent confusion in references, we may mention that in 1867 Dr Aubrun's son, upon the occasion of his taking his medical degree at Paris, published a thesis entitled "*Du Perchlorure de Fer: ses Applications Thérapeutiques, principalement dans la Diphthérie.*"

We cannot say exactly when and by whom the treatment was first employed, but we have named the physicians to whose writings its merited repute and generalization are chiefly due. To that list of pioneers we ought perhaps to add Dr William Budd of Bristol. Dr Budd's testimony, not the less influential that it was given in an incidental manner, is noteworthy. He published a paper on 1st June 1861 in the *British Medical Journal*, with a view to show the superiority of a solution of chlorinated soda over all others as a local application in diphtheria. He states that in all the cases in which he employed it, "the local disease began to decline from the moment of its first application." He mentions that the general treatment he adopted in the cases upon which he bases his eulogy of chlorinated soda was "in entire accordance with that now almost uniformly followed, in so far as that consists in a supporting plan, and a pretty liberal use of alcoholic liquors." He adds:—"The only specialty to which I have to refer in connexion with the medical treatment of the cases was the administration of the tincture of the sesquichloride of iron in considerable doses."

The treatment of diphtheria by ferruginous preparations is good; but of them the chlorinated preparations are by far the most efficacious. This is a fact which the practitioner ought to keep in view. Next in efficacy to the tincture of the sesquichloride—and sometimes for alternate periods, when the secondary (paralytic) symptoms of the disease are protracted—we prescribe the syrup of the iodide, or the citrate of iron, with quinia or strychnia. In the primary disease we prefer the tincture of the sesquichloride both as an internal medicine, and also as a local application to the fauces, much diluted in aqueous spray. For the latter purpose, chlorate of soda and chlorate of potash are also admirable. Dr Budd formed, probably, a correct estimate of the value of a solution of chlorinated soda as an internal local application.

We return to Dr Charles Bell's useful pamphlet to remark, that he disposes in a very summary manner of the "croup and diphtheria question." He says (p. 16):—"It is remarkable that MM. Guersant and Bretonneau should have identified diphtheria with croup, and that Louis should have treated of it under the name of *croup chez l'adulte*, when the slightest observation proves that they are totally different diseases." But perhaps ere now Dr Charles Bell has, with Sir Thomas Watson, Sir William Jenner, and others, gone over to Bretonneau's side. *Tempora mutantur nos et mutamur in illis!*

A Handbook on the Diagnosis of Skin Diseases. By R. LIVEING, A.M., M.D. Cantab.; F.R.C.P. London; Lecturer on Dermatology to the Middlesex Hospital Medical School, etc. London: Longmans, Green, & Co.: 1878. Pp. 266.

THIS handy and unpretentious little volume contains in a concise form more really useful information on skin diseases than any other with which we are acquainted. It successfully fills a blank which hitherto existed in medical literature. Not only is it a book which the student may advantageously study, but it is equally suited to the wants of the qualified practitioner, who will find in it a mine of well-digested knowledge. We strongly advise every one interested in skin diseases to obtain it and read it carefully, and we feel sure after so doing it will be agreed that both the time and the money have been profitably spent. Dr Liveing not only knows his subject well, but can write about it clearly and simply, and we scarcely need his assurance that "in almost all cases the sketches of the different skin affections are derived from my own practice and observation" (pref. p. vi.) to convince us that nature and not imagination has been drawn from. After an introductory chapter devoted to the best modes of examining patients affected with skin diseases, in which, among other points, the view advanced by

Hebra, that objective symptoms are alone necessary for a correct diagnosis is rightly opposed, and due value assigned to information derived from the patient, the author very clearly shows the estimation in which the various elementary lesions are to be held, and indicates the necessity for a more precise nomenclature regarding them. The classification adopted is a good one, less exhaustive than Hebra's, but simpler, and perhaps arranged as nearly on an anatomico-pathological basis as is yet possible. Dr Liveing divides all skin diseases into eight classes: viz., Inflammations, Hæmorrhages, Diseases of the Skin Glands, Diseases of Nutrition and Growth, New Formations, General Constitutional Diseases, Neuroses, and Parasitic Diseases. The term inflammation being still debatable ground, may be objected to as applied to the first and largest class, but it is perhaps as suitable as that of exudative diseases, Hebra's appellation, to cover nearly the same affections as are included under inflammations by Dr Liveing. A very excellent section is devoted to a description of Rötheln, giving the clearest account of this somewhat puzzling disorder that we have met with, in the part of the book treating of the exanthemata.

Turning to the department of skin diseases proper, we naturally wish to learn what Dr Liveing has to say about some of the more disputed forms. One of these is lichen, on which opinions have very much changed in later years. He recognises four forms, *lichen urticatus, l. circumscriptus, l. scrofulosorum*, and *l. planus*. The first of these, however, he looks on, as most authors do, as a variety of urticaria, in which papule-like swellings are developed. Lichen scrofulosorum is, he thinks, a distinct affection from lichen circumscriptus, as met with in scrofulous subjects. We think that this is an unnecessary complication, and that any differences which exist are easily explicable on diathetic grounds. It is unfortunate that there is no very good representation of lichen circumscriptus in any atlas easily accessible. Fox's plate is by no means very characteristic, while in the letterpress accompanying it, he speaks of it as occurring "about the back of the hand and forearm, or the thigh," the fact being that the eruption is much more frequent on the trunk. Hebra's plate of lichen scrofulosorum is better, but not very distinct, while Fox gives us a pustular syphilide as lichen scrofulosorum. We hope Dr Duhring may favour us with a good picture of lichen circumscriptus; the disease is rare here, but if met with in America in typical form no one could do it better, and it is only by pictures of cases that the difficulty can be cleared up. Dr Liveing thinks the main difficulty in diagnosis arises from one being apt to confound it with pityriasis versicolor. From what we have seen of the affection we are more inclined to agree with Fox that it is more liable to be confounded with tinea circinata. In both cases the microscope furnishes an easy test. Liveing is of opinion that lichen planus of Wilson and lichen ruber of Hebra are identical, the latter having laid more stress on the colour, the former on the form of the papules. Kaposi (*Wiener Med. Wochenschrift*, No. 35) has recently gone into this question, and states as his opinion that there are two forms of lichen ruber—the one the lichen ruber of Hebra or acuminatus, the other lichen ruber planus. The first makes its appearance as red conical-pointed scaly papules, which, from their discrete arrangement, feel like the surface of a rasp or file; the latter only consists of flat non-scaly papules, glancing like wax, and depressed in their centres, which tend to run into groups and patches from without inwards. Lichen ruber planus is, according to Kaposi, more frequently met with, and does not spread so generally over the surface as lichen ruber acuminatus. So far as has been yet observed, the disease can only be studied in its minute detail in Vienna, as it is only there it occurs sufficiently often or in its intense and aggravated forms. In America it seems as rare as in Great Britain, if we are to judge from a lecture by Dr Duhring (*Philadelphia Medical Times*, 27th April 1878) on lichen planus, for he says that "lichen ruber, as seen in the Vienna clinic, is up to the present time unknown in our skin clinics in Philadelphia," though he adds that a well-defined example of the lichen ruber of Hebra had been reported by Professor White of Boston. It is most likely that the two forms more or less run into each other, the flat as opposed to the pointed papules being seen most frequently here.

Rheumatic purpura or peliosis rheumatica is another disease about which there is considerable discrepancy of opinion. Dr Liveing gives a careful summary of the views held, and concludes that it is really a variety of erythema, in which cutaneous hæmorrhages and joint affections are prominent features.

Under the head of Hyperidrosis allusion is made to the dysidrosis of Fox, which he regards as a local hyperidrosis accompanied with more or less eczema, while he admits the cheiro-pompholyx of Mr Hutchinson as a definite lesion distinct from the former, and referred by him for the present to the herpetic group of the class Inflammations. We notice no allusion either to rhinoscleroma or lymphangioma; of the latter only one case has as yet been recorded in Hebra's text-book, and figured in the last fasciculus of his Atlas; but of the former a good many examples have been met with at Vienna—enough to establish it as a distinct disease taking its place among the new growths, and quite unconnected with syphilis. The growth is probably a sarcoma of the round-celled variety. The clinical history of the cases of rhinoscleroma bears out this opinion, as the growth tends to recur again and again after treatment, so that the prognosis is unfavourable as regards entire cure.

Of scleroderma he admits two forms, circumscribed scleroderma or morphœa or Addison's keloid, and diffuse scleroderma. This is the view held at Vienna, and the points of distinction which are marked enough to constitute good grounds for separating them are well put by Dr Liveing. We have seen examples of both, and are disposed to regard his opinion as the correct one.

The diagnostic points in the case of dermato-syphilis are well stated, and the necessity for forming an opinion in these from objective symptoms alone is strongly insisted on. The reasons why here an exception to the ordinary rule should be made are obvious.

Without pursuing the subject further, we think from what has been said sufficient indication of the value of Dr Liveing's book has been made. It stands alone as a work of reference on the subject, and we hope when a second edition is demanded, which we expect will be soon, that its accomplished author may make it complete by the addition of directions for treatment. This would render it all round the best concise work on cutaneous medicine published in this country, or perhaps anywhere.

Part Third.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION LVIII.—MEETING IV.

Tuesday, 4th February 1879.—Dr Wilson *in the Chair.*

I. EXHIBITION OF PATHOLOGICAL SPECIMENS.

(1.) *Mr Spence* showed the parts concerned in a case of POPLITEAL ANEURISM. What first attracted the attention of the patient was, the commencement of senile gangrene; and on examination, Mr Kennedy of Sanquhar found a small popliteal aneurism. The gangrene had apparently been caused by a dislodged clot blocking the tibial vessels. Treatment by rest and iodide of potash did not arrest the spread of the gangrene. It crept on slowly, and as symptoms of septic poisoning were beginning to show themselves, he (Mr Spence) advised amputation at the middle of the thigh. This was done, and the patient made a rapid recovery. The preparation was interesting, as it showed that under certain circumstances the presence of a small popliteal aneurism, even with consolidation going on, may necessitate amputation. Still further, it was of great interest from an anatomical point of view. During all his experience as a teacher of anatomy and surgery, he had never met with the irregularity found here, viz., the popliteal artery passing beneath the inner head of the gastrocnemius, nor could he find any record of such irregularity.

(2.) The parts from a case of Dr Steel of Montrose, recorded in the *Edinburgh Medical Journal* for January of this year. They would see that where Dr Steel had tied the external iliac, the deligation was perfect with a clot at its distal side and a small filamentous one on the proximal side. The secondary hæmorrhage, which caused the death of the patient, was from a small aneurism higher up.

(3.) A specimen of COLLOID CANCER OF THE DESCENDING COLON in a child æt. 7. The child's history was somewhat misleading, as he was in good health a week ago, and his bowels had acted well on the day of admission. There was distinct fæcal vomiting and a fulness in the abdomen that led him to suspect the colon. He performed gastrotomy, and made an artificial anus. He believed the mother's story about the free evacuation of the bowels on the day of his admission, as the bowel below the constriction would gradually get distended by fæces trickling past the obstruction.

II. *Dr Littlejohn* showed the STOMACH of an old man, exhibiting post-mortem digestion. He was aged 74, and had heart disease. The account given was that he dropped down suddenly after drinking a glass of porter. The body was opened 12 hours after death, when the state described was found. He had found this condition in children and lads, but never until this instance in grown-up people. The stomach contents were acid.

III. *Mr D. J. Hamilton* showed the following SPECIMENS illustrating acute catarrh of the bronchi.

(1.) The natural bronchi with their three layers of epithelium.

(2.) Specimens of acute bronchitis, in which the first change is the appearance of a clear, homogeneous, and transparent basement membrane, under the epithelium. The columnar cells then desquamate, and the deeper layers of epithelium by germinating gave rise to the cells of the catarrhal secretion.

(3.) Specimens of chronic bronchitis, in which there were no proper columnar epithelial cell, but only transitional or embryonic forms. There was also enormous cellular infiltration of the mucosa below the basement membrane; were it not for this membrane, these cells would escape into the bronchus. Instead of that, however, they passed through the peribronchial and periarterial lymphatics into the pleura, setting up interstitial pneumonia and pleurisy.

IV. *Dr Stewart* then read NOTES OF CASE OF POISONING FROM FUSEL OIL AND ACONITE, which appears at page 904 of this Journal.

The *President* had listened with pleasure to Dr Stewart's account of this rare and unique case.

Dr Littlejohn thought that Dr Stewart deserved great credit for his paper. He had rarely listened to a more admirable and succinct account of a difficult case. It was interesting to note how completely the smell of the fusel oil overpowered that of the camphor in the liniment. The evidence of pulmonary irritation was also noteworthy, as he knew that distillery workmen suffered from respiratory irritation from the fusel oil. The remarks on the separation of aconitia were valuable, and he hoped Dr Stewart would publish his reactions fully.

Dr Affleck, in reference to the duration of the case, pointed out that aconite generally poisoned in about three hours.

Mr Spence related a case where a medical man and his wife each took a drachm of Fleming's tincture instead of tincture of orange-peel, and yet recovered.

V. *Dr Wortabet's* paper on A RECENT VISITATION OF THE PLAGUE IN BAGDAD was then read, which will appear in a future Number.

Mr D. J. Hamilton thought it curious that so little had been said about treatment. He had seen recently in the *Times* an account of some curious old remedies once employed for the plague—one doctor gave dried powdered toads; another gave troches of serpents; while a third administered good canary, in large doses, both to the patient and himself. *The President, Dr Graham Brown,* and *Dr Wyllie* also took part in the discussion.

OBSTETRICAL SOCIETY OF EDINBURGH.

SESSION XXXVIII.—MEETING IV.

Wednesday, 22d January 1879.—Dr WILSON, *President, in the Chair.*

Mr William Nicol Elder, L.R.C.P., and Mr John M'Watt, M.B., were admitted Ordinary Fellows.

I. *Professor Simpson* mentioned having made use of TARNIER'S FORCEPS in a case in which another practitioner had applied the ordinary forceps and failed. The child was easily delivered, but there was an indentation on the head which was found to fit the edge of one of the Tarnier blades.

II. *Dr Wilson* exhibited the SECOND CHILD in a case of TWINS, where the head was HYDROCEPHALIC. It was delivered by the feet, and very great difficulty was experienced in extracting the head.

III. *Dr Ritchie* showed the HEAD of a TAPEWORM which complicated the early months of pregnancy. The treatment was important. The patient had suffered before marriage; after this pregnancy ensued; increased sickness supervened. Male fern was given with little effect. Thinking this was due to mucus accumulation, he gave tincture of the perchloride of iron till the motions became black, then gave the fern again, and succeeded in dislodging the head of a Tænia medio-canellata.

IV. *Professor Simpson* communicated note of case of ACCIDENTAL HÆMORRHAGE, with PREPARATIONS. The following account was given by Dr M'Watt, who saw the case:—Mrs Thompson, aged 40, mother of ten children living, had last child three years ago. She menstruated last in May, and quickened in September. Three weeks ago patient fell downstairs, and about an hour after this some *clear* fluid came away. Since the fall she has felt very few fœtal movements, and has never felt well since. On 16th January labour began in the morning. The pains were very weak, and at long intervals. At twelve that night blood began to come away, and continued doing so till seven in the morning of the 17th, when I was sent for. By that time she had lost a large quantity of blood. On arriving I found the pains strong and constant, the os fully dilated, and the membranes still intact, with the fœtal head high up in the pelvis. No part of placental tissue could be felt. I immediately ruptured the membranes, when the water came away in a gush in large quantity, and a putrid child was born in ten minutes after. The placenta showed in its centre a large depression, in which a large blood clot lay.

V. *Professor Simpson* then showed two PLACENTÆ, and read a paper on some forms of STERILITY, and on PRIMIPARA PLACENTA PRÆVIA, which appears in full in the March No. of the Journal.

Dr Macdonald stated that he was persuaded there could be only one feeling—that of admiration—in the Society in regard to the paper which had now been read. There were so many points of extreme interest brought out in the paper, some of them touching upon subjects that are warmly discussed among the profession, that he felt it was very difficult indeed to make any critical observations upon the paper. He considered the remarks upon the various causes of sterility admirably put, and the more so, as within a short time ago he had the opportunity of observing and treating a case that would come under Dr Simpson's third head. It referred to a patient who had been several years married, and in whom penetration had never apparently taken place, although the vagina was of normal size, and the hymen, though persistent, not at all rigid. In this case the husband appeared to have failed in reaching the vagina, and in consequence the fossa navicularis was considerably distended, and its surface and that of the vulva generally rendered extremely irritable by repeated awkward attempts at connexion. Abstinence from these abortive efforts for a time, with the application of iodoform ointment, and a little didactic expostulation with the husband, was sufficient to remedy the matters. As to the other question, he quite agreed with Dr Simpson that retroversions and retroflexions of the uterus frequently gave rise to great trouble to patients, and that if we wished to do our best for our patients we must attempt to treat them. He also was satisfied that they frequently gave excellent results under treatment. He started life rather strongly disposed to disregard uterine displacements, and at any rate to avoid internal treatment of them. A patient of his who suffered very greatly and long from a troublesome retroflexion was the means of convincing him that he was bound to reconsider his position. This patient suffered for upwards of fifteen months from much backache, from dysuria, and other troublesome symptoms. She also ultimately became pregnant, and aborted at the third month. He tried pads applied to the perineum, with and without supra-pubic pads, but the effect was *nil.* He tried internal medication with equally imperfect success. At last he resolved to straighten the uterus, and adapt a Hodge's pessary. This he did with complete relief to the most of the symptoms. The patient fell pregnant in a few months, the instrument was removed about the end of the fourth month, and all went well. Since that time the same patient has been again twice delivered at term. She usually needs to wear the pessary during the periods between her pregnancies. This occurred at a comparatively early period of his practice, and the experience has more or less influenced his action ever since. Accordingly, when the uterus is mobile, and not fixed in its position of retroversion or retroflexion by adhesions, and gives rise to troublesome symptoms, he considers it ought to be treated, and that it will usually give excellent results with a Hodge's pessary. Dr Bantock maintains that retroflexion cannot be benefited in this way, but only retroversion. In this he thought he was mistaken, and that if the uterus is first straightened by the sound, and a Hodge introduced which is not too much curved in its posterior limb, the retroflexion may be removed, especially if, during the treatment, ergot is freely administered along with some form of bark. But he thought Professor Simpson would agree with him when he said, that if such treatment is employed before a uterus with a congested and tender fundus is first treated to subdue the sub-inflammatory symptoms, or if a Hodge is introduced against the fundus of a uterus that is fixed in position, and therefore irreducible, or if a pessary is applied when there is, as we so frequently find to be the case, associated with the displacement, ovaritis, perimetritis, or parametritis, then the symptoms are only aggravated by the mechanical treatment, and disaster is frequently the result. He (Dr M.) knows of one case that was lately for several months in his ward, where the patient nearly lost her life through a putrid parametric abscess, which was originally started by the introduction of a Hodge's pessary for retroversion. That case is not singular, but is one of many unfortunate results that are cropping up from time to time. Therefore he believed it was the duty of those who, from special opportunities and experience, had to guide the minds of students, and through them the profession, on this subject, to be careful to point out the great liability to abuse of pessaries. While satisfied that retroversion especially, but also retroflexion, gave good results to judicious mechanical treatment usually, he was far from convinced that similar advantages were found to follow treatment of anteversions and anteflexions. He was strongly inclined to believe that these, or at least anteversion, had better be let alone so far as regards mechanical treatment. He should have liked that Professor Simpson had extended his remarks to this subject, though it was scarcely germain to his main theme. He could not but congratulate Professor Simpson on the method of treatment employed in the delivery. It was, he felt satisfied, the only proper treatment to adopt, when one saw the case in sufficient time to employ it. Last night, curiously, he had an opportunity to prove its value in a case of placenta prævia, the placenta of which he took the present opportunity to place before the Society. This patient, after suffering repeatedly from hæmorrhage for upwards of three months, had a specially severe attack last night. She was in the seventh and a half month; the cervix was freely traversable to the finger, and the placenta could be felt projecting down to and over the left side of the os internum. The bleeding being copious, after a brief consultation with Dr Playfair, he proceeded to dilatation, and concluded the process safely in about two hours, turning by the bipolar method. The child was living, and the mother was to-day very well indeed. He believed that the profession were now becoming more and more convinced that it was not the proper thing to wait till the cervix uteri should dilate sufficiently to pass the hand, and thus allow the patient to run the risk of severe hæmorrhage. The most effective procedure was, so soon as the bleeding presented itself in such amount as to satisfy the attendants that, if it continued in that amount, it would ultimately endanger the life of the mother, to dilate with Barnes's dilators, and deliver by version. Even in primiparæ the dilatation was usually easy, owing to the presence of the hæmorrhage, and during the dilatation the presence of the bags arrested the flow. He had not himself experienced any difficulty in removal of the placenta in such cases. But he was satisfied there was a special liability to post-partum hæmorrhage, consequently he never now left the bedside of such patients for several hours after delivery, and always used ergotine before the expulsion of the placenta. He once lost a patient, and very nearly lost another by post-partum hæmorrhage after placenta prævia. They were both consultation cases, and he thought the danger might possibly have been avoided had not the medical men in charge of the cases and he left so soon.

Dr Underhill commended the paper. He was especially interested in Professor Simpson's remarks on placenta prævia. One of the most interesting points in these cases was the relation of age. Regarding the period at which we should interfere referred to by Dr Macdonald, we were now more at one as to the necessity of early recourse to operative measures, thereby relieving the patient of the further risks of bleeding. When we considered not only the immediate but remote effects of hæmorrhage, the propriety of early interference was imperative in the interest of both mother and child. While recommending the use of Barnes's bags, he deprecated too rapid dilatation in most cases, and mentioned the case of a patient who in consequence had suffered from perimetritis.

Professor Simpson, in reply, said that, as there were so many points for discussion in the paper, he had not expected that any of the Fellows would have entered on the general question of treatment of placenta prævia. His principle was to recognise the value and proper application of all methods of interference, so as not to tie his hands in any way, but to be prepared to suit his treatment to each particular case. In this instance he had remarked that, in introducing Barnes's bags, the placenta was separated to a certain extent, which no doubt assisted to stop the bleeding. Dilatation he thought a method of treatment now fully appreciated by every one. As to the flexions, he purposely kept off the wide range of these displacements. He especially deprecated the taunting writing of many who styled as mere mechanicians those who treated mechanically these displacements. We should be careful always not to employ pessaries or even the uterine sound in any inflammatory cases, either metritic, peritonitic, or oophoritic. The men who knew best their value regarded such use as an abuse of them.

Part Fourth.

PERISCOPE.

MONTHLY REPORT OF THE PROGRESS OF THERAPEUTICS.

By William Craig, M.D., F.R.S.E., Lecturer on Materia Medica, Edinburgh School of Medicine, etc., etc.

TREATMENT OF HOOPING-COUGH BY TINCTURE OF MYRRH. By Campardoh.—Hooping-cough yields easily and rapidly to the alcoholic tincture (15 drops to the tablespoonful) in quinine wine or Vichy water. A tablespoonful every hour or two. This treatment in no way interferes with the appropriate remedies for the tracheo-bronchitis or the pulmonary congestion (*Bull. Thér.*).—*Chicago Medical Journal and Examiner*, Jan. 1879.

THYMOL AND ITS USES.—As an antiseptic thymol is much more powerful than either phenol or cresol (carbolic acid). Ranke uses a solution of one part thymol to one thousand parts water, instead of the carbolic solution of Lister. Dr B. Kussner, of Halle, has tried it internally. In doses of three to five drops of one per cent. solution he found it useful in the diarrhœa of children. An inhalation of one part to one thousand of water reduced the fever and expectoration in a phthisical case. Animals poisoned with thymol sink into a profound coma. After death their blood is dark and fluid. Fatty degeneration of internal organs is, however, not found. Injected into the veins it lowers the temperature and induces stupor. — *Medical and Surgical Reporter*, 4th January 1879.

TINCTURE OF THAPSUS.—As an efficient remedy for functional derangement of the uropoëtic system, a condition whose organic cause eludes analysis, I have been for some time in the habit of prescribing the tincture of Thapsus Bursa-pastoris, or shepherd's purse, a genus of cruciferous plants. I treat with it not only hæmaturia, for which, on account of its astringent properties, it was formerly used, but cases of renal and cystic derangement, very various in their nomenclature; but always this side of any considerable destructive lesion. I desire to draw to it the attention of the profession, because I believe it is a remedy not generally known. It has long been a favourite remedy with the so-called "eclectics," whose leading pharmacist first called my attention to it (Dr James J. Tucker). — *Chicago Medical Journal and Examiner*, January 1879.

THE PHYSIOLOGICAL ACTION OF COFFEE.—Professor Binz has been making some new experiments on this subject. He found that very large doses not only raised the temperature, but caused death by convulsions; but the latter could be averted by artificial respiration. Moderate doses of caffein raised the blood-pressure, the effect being the same whether the pneumogastric nerves are divided or not. Professor Binz has also examined the effect of caffeoon, the name given by Bontron and Frémy to the volatile products developed in the coffee-bean by roasting, and he finds that like caffein, it acts, in moderate doses, as a stimulant to the brain, the heart, the respiration, and the heat-producing apparatus. He agrees with Hoppe-Seyler and Voit, that an ordinary infusion of coffee slightly increases rather than diminishes tissue-change. In any case the influence it exerts in this direction is very trifling. The potassium salts contained in coffee are probably of no physiological importance.—*The Medical and Surgical Reporter*, 11th January 1879.

ACONITE, ITS VALUE IN TRIGEMINAL NEURALGIA.—Dr E. C. Seguin (*New York Medical Journal*, December 1878) reports seven cases of trigeminal neuralgia treated by aconitia. From this experience he concludes: (1.) The susceptibility of individuals to Duquesnal's aconitia varies enormously, one individual in the series having been severely affected by 1-200th of a grain, while another tolerated readily 1-84th every three hours. On the average, distinct physiological and therapeutical effects were obtained by giving 1-100th of a grain three times a day. (2.) Out of six cases of severe trigeminal neuralgia, one, probably a reflex neuralgia from a decayed tooth, was not at all benefited. Three cases, epileptiform in character, were slightly or only temporarily relieved; two cases were cured. One of these had existed for seven years, with an interruption of twenty months, procured by resection of the affected nerve. Thus, while aconitia sometimes fails, we must regard it as one of the most powerful and best agents for relieving and curing trigeminal neuralgia. (3.) We do not as yet know the forms of trigeminal neuralgia most influenced by aconitia.—*The Detroit Lancet*, January 1879.

BROMINE IN LARYNGEAL CROUP.—Dr W. Redenbacher writes in the *Œrztliches Intelligenz-Blatt* of 7th January, that he has obtained strikingly good effects in two cases of laryngeal croup from the internal administration of bromine (in the form of bromide of potassium). For some time bromine inhalations have been used in the following manner. From 0·2 to 0·3 *gramme* of bromine, with a similar or greater quantity of bromide of potassium, has been dissolved in 120 *grammes* of water, and a sponge or handkerchief dipped in it being tied before the nose and mouth, the bromine vapour has been inhaled for five or ten minutes, at intervals varying from half an hour to an hour. From this method, however, Dr Redenbacher has not been able to obtain any good result. Two little girls, aged respectively 5 and 7, having come under his care with severe croup of the larynx and air-tubes, he ordered a teaspoonful of the following mixture to be taken every hour: ℞ Decocti althææ, 120 *grammes*; potassii bromidi, 4 *grammes*; bromi, 0·3 *grammes*; syrupi simplicis, 30 *grammes*. On again visiting the patients, whom he did not expect to find alive, he was most agreeably surprised. The harsh respiratory murmur, the difficult breathing, the dry characteristic cough, the loss of tone in the voice—had all disappeared; the breathing was free, the cough loose, and the hoarseness diminished. Several portions of croupal membrane had been coughed up. The improvement continued on the next day, and perfect recovery followed in a few days. No toxic symptoms of any kind were produced. For children under one year, the quantity of bromine in the mixture should be reduced to 0·1 *gramme*; and for those from one to four years old, to 0·2 *gramme*.—*The British Medical Journal*, 15th February 1879.

SILPHIUM CYRENAICUM—The *Allgem. Wiener Med. Zeitung*, No. 53, 1878, contains an article on a drug which seems to have been known many centuries ago, but which has only been analyzed and officially acknowledged in our times. It is the *Silphium cyrenaicum* prepared by Messrs Dérode and Deffes, chemists in Paris, which is said to be very efficient in phthisis, catarrh of the lungs, cough, etc. It does not suddenly put a stop to these affections; but it diminishes the irritation in the throat which causes the cough; it reduces the action of the heart and lowers the temperature, thereby enabling both the patient and the physician to dispense with narcotics, which after a certain time lose their power, or, what is still worse, cause permanent injury to the nervous system and the brain. It is given in different forms, as pills, tincture, syrup, and glycerine.—*The British Medical Journal,* 15th February 1879.

PILOCARPIN AS AN ABORTIFACIENT.—A late number of the *Allgemeine Med. Central. Zeitung* quotes four cases recently reported by various observers, where the hypodermic use of pilocarpin in pregnant women led to abortion. One case was four months gone, and aborted after the ninth injection. This should be an important caution against using this agent, which is growing in popularity, in pregnant women. As to whether it will prove of service in cases where the production of abortion is indicated for legitimate reasons, no observations have been reported.—*Medical and Surgical Reporter,* 8th February 1879.

ERGOTIN IN ABORTION.—Dr Noel Smith in the course of some remarks upon the treatment of abortion, states that he places great reliance upon hypodermic injections of ergotin in every case of uterine hæmorrhage during abortion, even though only moderately grave. Small abscesses may sometimes ensue at the seat of puncture, but they are somewhat rare. The formula employed is as follows :—℞ Ergotin gr. ij., spt. vini rect. et glycerinæ, āā fl. ℨss. M., of which gtt. v., equivalent to ⅙ gr. of the ergotin, are to be injected (*The New York Med. Record,* 13th July 1878).—*The Practitioner,* February 1879.

PERISCOPE OF OTOLOGY.

By J. J. KIRK DUNCANSON, M.D., C.M., F.R.C.P., and F.R.S., Edinburgh, Surgeon to the Ear Dispensary, 6 Cambridge Street, Lothian Road; Assist.-Surgeon, Eye Infirmary; Lecturer on Diseases of the Ear, Edinburgh School of Medicine.

SOME recent experiments by Herr Holmgren in Prof. Kühne's laboratory in Heidelberg seem to prove that the variations of the retina current through the action of light have no essential relation to the blanching and regeneration of the so-called "visual purple," thus increasing the difficulty of regarding that purple as directly connected with vision. In one experiment an eye of a newly-killed frog was kept half an hour to an hour in sunlight, till all the visual purple was blanched. Variations of the retina current on incidence of light were found to occur in the ordinary way. Again, one eye of a rabbit was protected against the action of light by sewing the ear over it, while the other was exposed to the light. The animal showed normal variations of the retina current; and when the eyes were examined, with the necessary precautions, the normal amount of purple was found in the covered eye, while the other, which gave variations of the current, was quite without purple. Conversely, eyes of frogs and rabbits were taken out, and treated with alum solution in the dark. The visual purple was thus maintained twenty-four hours, and it was then exposed to light. The light blanched it, like that of a fresh eye, but there was no trace of variation of current in consequence of this action. The author's conclusion regarding vision finds support in the facts that visual purple is wanting in some animals, which must be supposed capable of sight, and that it is absent from the yellow spot in man, and so from that part of the retina in which vision is most distinct. —*Nature*, 13th Feb. 1879, p. 350.

In a recent series of demonstrations at La Salpêtrière, Paris, Professor Charcot has shown, *inter alia*, that it is possible to produce in one subject a state of catalepsy on one side of the body, and a simultaneous state of lethargy on the other. The patient is first thrown into catalepsy by looking at the electric light (in this state the limbs are supple, and will retain any position one chooses to give them). To produce the stage of lethargy or somnambulism on one side, it is sufficient to close the corresponding eye, or shut off the light with a screen; the two states are then co-existent on the two sides of the body.—*Nature*, 13th Feb. 1879, p. 351.

INFLUENCE OF DURATION AND INTENSITY ON LUMINOUS PERCEPTION, by MM. Richet and Breguet.—A weak light, perceived distinctly when it impresses the retina some time, becomes invisible when its duration diminishes. It may be rendered visible anew by making it more intense, or increasing its duration, or repeating it rapidly. Coloured lights are subject to the same laws, and are always seen with their proper coloration, whether strong or weak, long or short (*Academy of Sciences, Paris*, 3d Feb. 1879).—*Nature*, 13th Feb. 1879, p. 356.

CONCERNING THE COLOUR OF EYES.—May a portrait painter be allowed to remark that there are two kinds of green eyes, and the poets have duly appreciated both. The eye of the "green-eyed monster" is, no doubt, the cold gray, or stony blue eye, overspread with the yellow of biliousness, hence green; but when Dante called the eyes of the beautified Beatrice *emeralds*, he did not mean to insult her. The image, called up by his ecstatic words, is that of those deep, soft eyes which are a warm brown in some lights—for instance with the light falling on them from one side only—and take a grey tint when facing the light of the sky, and green tints at other times, according to the lights that fall upon them; and are, therefore, sometimes a puzzle to portrait-painters. Eyes, like the sea and precious stones, catch lights and transmute them. The sea is only green from the meeting of sunlight and blue skylight in it.—*J. M. H.* *P.S.*—Has it been remarked that the distinction between yellow and blue tints—the only one made by the colour-blind, according to Dr Pole—is precisely the same as that made by the sun in photography; all the warm tints (as an artist—who makes the same distinction—would call those partaking of yellow) coming out darker, and all the cold ones—or those partaking of blue—lighter than in the object photographed?—*Nature*, 13th Feb. 1879, p. 340.

EAR AFFECTION. — Several years ago, during an attack of whooping-cough, I found that one of my ears was so affected as to cause sounds heard by that ear to seem flatter than their true pitch as heard by the other ear. The difference was about a semitone, as I ascertained by holding a tuning-fork to each ear alternately; and when I whistled I heard two notes in discord. The affection lasted about ten days. Will one of your readers kindly render me an explanation? (*P.*, Adelaide, Nov. 1878).—*Nature*, 6th Feb. 1879, p. 315.

The remarkable phenomenon described by your correspondent "P" in *Nature*, vol. xix. p. 315, induces me to bring to your notice that precisely the same effect was produced in my own case a month ago, when partial deafness came on in both my ears whilst suffering from congestion of the mucous membrane of the nasal passage and Eustachian tube. Not being aware that any prior case had occurred of a distinct difference of a semitone, as indicated by the alternate application of a tuning-fork to the two ears, I at once drew up a memorandum on the subject, and handed it to Dr Urban Pritchard, who was advising me. Like your correspondent "P," I have also noticed the double sound produced when I whistle, and more particularly when I close both ears with my fingers (*G. L. Wallich*, 11th February). — *Nature*, 13th Feb. 1879, p. 340.

The experience of "P" as given in *Nature*, vol. xix. p. 315, is physiologically interesting, and by no means usual. Before attempting an explanation, it may be as well to assume that only one of "P's" ears was affected by the disorder, as by this hypothesis we get the greatest possible divergence from the healthy state. It would have been easy to ascertain which was the faulty organ at the time by requesting a musical friend to listen while "P." vocalized the note of the tuning-fork as conveyed to him by each ear separately. The discordant ear would then have been revealed.

The fault of hearing must have been due either to some mechanical misadjustment of the auditory apparatus, by which a wrong sensation was conveyed to the brain, or else to some deep-seated brain or nerve lesion, which led to a faulty conception of the original sound. Let us consider briefly the first of these cases.

From the exceedingly scanty description of his disorder given by "P," I gather that the discord was mostly conspicuous when the note was high pitched (such as when whistled). Now it sometimes happens, from paralysis of the chorda tympani nerve, or even from occlusion of the Eustachian tube, that the tension of the eardrum is preternaturally increased. Such affections, as aurists well know, frequently intensify to a distressing degree the hearing of high-pitched notes, whilst they correspondingly diminish the sound of the lower tones of the chromatic scale. The result is probably obtained by the fact that the tense membrane responds more readily to the rapid vibrations of the higher tones than it does to those of a slower rate. We must also remember that the power of lessening the tension of the membrane is in such cases very seriously impaired, and, as a consequence, the power of adjustment also. I do not suppose that in "P's" case there was any actual paralysis of the tympanic muscles, but it is just possible that there may have been a certain degree of misadjustment of the drum of the affected ear, due to a feeble and imperfect contraction of one or the other of the muscles referred to. If the disorder was, as I surmised, accompanied with great tenseness of the membrane, the laxator tympani would be the faulty muscle. We might, I believe, under such circumstances, expect the ear-drum to vibrate discordantly in response to a note, for Helmholtz's experiments with stretched strings would suggest that it is feasible within certain limits. As a matter of fact, this discordance is rare, and therein rests the interest of "P's" case. I can scarcely believe that in his case any of the deeper structures of the ear were seriously implicated, otherwise he would hardly have made such a rapid and complete recovery as he did.—Brighton, 10th February.—*W. Ainslie Hollis.*

Your correspondent "P" (*Nature*, vol. xix. p. 315) desires an explanation of the phenomenon of alteration in the pitch of sounds, which he has experienced in his own person whilst suffering from temporary deafness. Your second correspondent on this subject, Dr Wallich (p. 340), was under my observation at the time of his experiencing the same peculiar and comparatively rare aberration, and I was able myself to verify his statements. I propose, with your permission, to give an explanation which appears satisfactory to myself, and hope it may be so to your correspondent "P." Persons suffering in this way find that sounds heard by the affected ear appear to be sharper or flatter than their true pitch, as heard by the other ear, and hence a sound may even appear double. The internal ear or labyrinth must be the part affected, and in all probability it is the cochlea which is at fault. Now, most authorities are agreed that the pitch of a sound is appreciated by the cochlea in the following manner:—Each tone or division of a tone has its corresponding portion on the spiral lamina of the cochlea, which, under ordinary circumstances, can only be affected by that tone. So that the sound-wave, produced by a certain tone, passes along the key-board (as it were) of the spiral lamina until it reaches its own key, which it strikes, or so affects as to cause an impression to be sent from that portion of the lamina to the brain. Hence the appreciation of variation in the pitch of sounds. This theory being accepted for an explanation of the aberration in question, we have only to suppose some slight physical alteration in the contents of the cochlea, which would cause the sound-wave to strike or affect the wrong portion of the lamina spiralis, and thus a false impression would be carried to the brain.—*Urban Pritchard.*

Now attention is drawn to the above, allow me to give another experience. On two separate occasions while playing the English concertina, and more particularly when single notes or simple chords were struck, I noticed that each was followed by a loud and distinct note an octave lower, which appeared to be that of its fundamental tone. The musical tones of the voice of any person addressing me, also, had their deeper reverberations in a similar manner, these being numerous and of rapid succession; the confusion arising was very like that which is heard in a hall unsuitably constructed for sound. The nuisance, for such it amounted to, I was troubled with for a couple of days each visitation, the abnormal state of hearing being peculiar to the left ear only (John Harmer, Wick, near Arundel).—*Nature*, 20th February 1879, page 365.

"On the Sensibility of the Eye to Action of Coloured Light more or less Diluted with White Light, and on Photometry of Colours," by M. Charpentin.—The chromatic sensibility remained constant, provided the white light added did not exceed a certain pretty high maximum (in the case of red, ten or twelve times the intensity of the red). A very simple element of comparison (of white and colourless lights) is had in determining for each light used the minimum quantity capable of causing the original sensation of colourless light.—*Academy of Sciences*, Paris, 10th February.

BLIND AND DEAF MUTE CHILDREN'S EDUCATION.—A bill to make better provision for the education of blind and deaf mute children was brought in and read a first time.—*Imperial Parliament*, *House of Commons*, Wednesday, 26th February.

A NEW TELEPHONE.—There has been recently exhibited to the French Academy a telephone with some novel features, and said to give remarkably good effects. It is the invention of Mr Gower, an American. He uses very strong magnets, made of the best French steel known, and magnetized by the means of a large electro-magnet, deriving its current from a powerful Gramme machine. The magnetic bar is bent in a semicircle, with its ends or poles projecting inwards, and having each a small oblong piece of iron, on which is mounted a coil of wire. These parts are enclosed in a shallow cylindrical brass case, the cover of which carries the vibrating membrane (rather thicker than usual), separated from it by an excessively thin chamber, and attached by means of a brass ring and screws (which latter do not touch the membrane at any point). The old form of telephonic mouthpiece is abandoned, and a flexible acoustic tube, with mouthpiece, is attached to the middle of the cover. Thus one may speak sitting at a table while the telephone is attached to the wall. Perhaps the most novel feature is the use of a telephone-call, consisting of a small tube bent at a right angle, and containing a vibrating reed; this tube is fixed on one side of the membrane. On blowing into the acoustic tube this reed is vibrated, and consequently also the membrane, which then moves in excursions large enough to be felt with the finger. A correspondingly strong sound is produced in the receiving telephone through vibration of its membrane, and even (from its peculiar *timbre*) when other sounds are present. The tube with the reed in it does not injure, but rather improves, the distinctness of transmitted speech. Simple phrases spoken with a loud voice into the transmitter are heard as far as five or six metres from the receiver—a result never achieved before.—*Scotsman*, Wednesday, 26th February 1879.

THE NEW WRITING TELEGRAPH.—Last night Mr Cowper read a paper at the meeting of the London Society of Telegraph Engineers on his newly-invented writing telegraph, the instruments for which he exhibited at work. The writing is done by the operator at one end by a pencil on a paper ribbon, which runs on from under his hand as he writes, and the writing is produced at the other end of the wire by a machine which repeats every line and curve on a somewhat reduced scale on a similar ribbon. The writing at the receiving end is accomplished by a pen known as Bradley's syphon pen, and is a close reproduction of the writing of the operator at the other end of the line. The pencil is placed in a holder which is connected with two rods, one moving perpendicularly, and the other horizontally. The end of each rod passes over an electric resistance arrangement, so that the current is reduced or increased according to its movement. This movement is reproduced at the other end of the wire, and corresponding rods are in this way made to move the pen. Mr Cowper said that when he first tried his pen he found that the tails of the y's and g's were not long enough, but the addition of some resistance coils soon pulled them down to a proper length. After explaining the details of his instruments, which had been only completed on the previous evening, the thanks of the Society were voted to him, and a hope was expressed that he would again favour them with a further account of his invention when yet further improved, as he expected it should be.—*Scotsman*, Thursday, 27th February 1879.

OCCASIONAL PERISCOPE OF DERMATOLOGY.

By W. ALLAN JAMIESON, M.D., F.R.C.P., Lecturer on Diseases of the Skin, Edinburgh School of Medicine.

CONDITION OF THE SKIN IN TINEA TONSURANS.—Dr Thin has studied this in two portions of skin removed from a man affected with ringworm, and finds that the parasite is found in and immediately surrounding the hair shaft, and plentifully between the latter and the internal root sheath. The spores of the trichophyton tonsurans travel downwards from the free surface of the skin along the hair shaft deeper than the level of the sebaceous glands, but in no instance did Dr Thin find them reach the hair papilla. They did not penetrate the internal root sheath, nor reach laterally the external root sheath, nor invade the sebaceous glands. Referring to the relations the various component parts of the hair sac bear to the horny and mucous layers of the epidermis, he observes that the parts of the hair with which the spores are found in contact are those analogous to the superficial scales of the horny layer. Thus the spores are found solely in lifeless epidermic products. Inflammation of various grades becomes set up in the skin round the affected hairs, the cause of this being traced to the absorption of some of the products of decomposition resulting from the growth of the fungus, these products acting as irritants. These decomposing materials being to some degree absorbed into the blood must tend to impair the general health. Dr Thin thinks that the action of remedies in ringworm is mainly due to their irritant quality, which sets up inflammation and effusion of serum, and thus cures it. Thus in obstinate cases the best mode of treatment, in addition to epilation, is to use some application which will keep up a slight degree of congestion of the affected skin over a considerable period, combining this with some means of preventing fresh attacks by spores anew taking root on the surface. This latter indication is fulfilled by so-called parasiticides, all more or less irritants, but which do not penetrate deeply enough to reach spores far down in the shaft of the hair.—*Medico-Chirurgical Transactions*, 1878.

THE BOTANICAL RELATIONS OF TRICHOPHYTON TONSURANS.—Dr Atkinson of Baltimore, dissatisfied with the discrepant results obtained by previous observers when attempting the cultivation of the parasitic fungi of the skin, has adopted a plan which seems free from fallacies due to the entrance and germination of adventitious spores. He extracts as much as possible of the stump of a diseased hair from within the follicle in a case of tinea tonsurans, where the spores are plentiful and active, and places it in a small drop of nutritive fluid, preferably boiled orange-juice, on the inner side of a thin cover-glass, which is then used to close in a small glass cell fixed to a slide by Canada balsam, and containing a little distilled water to keep the air moist. A few minute drops of oil keep the cover in place, and exclude foreign fungi. The slide is kept at a moderate temperature. All precautions are taken to ensure purity of all the materials employed. In many cases failure is the result, but in a certain number the following appearances are found to occur:—In from 24 to 30 hours, or longer, the spore mass round the hair exceeds its boundaries of the day before, the spores swell to many times their original proportions, but this ceases when hyphæ begin to be thrown out. This increase is in part due to budding. Hundreds of hyphæ shoot out from the hair-shaft, and when these can be traced to their proper spores, these are seen to be vacuolated. The hyphæ now branch, then segment, and form a network, and on short hyphæ globose bodies form with granular contents, presenting the characters of sporangia. These vary in form, as they do not, from their unnatural conditions of growth, acquire their full maturity. Restriction of air within the cell is one cause of this, but the cell has its advantage over slide culture, that the invasion of foreign germs is much more unlikely. In cell culture the hyphæ or mycelium segments, but this division never goes so far as in trichophyton, when growing in its normal state, which then minutely divide, and bear every evidence of ultimately forming spores. Dr Atkinson refers the trichophyton to the genus Mucor, and says that there is a perfect analogy between the process of germination, as observed by him, and that of the *Mucor mucedo.*—*New York Medical Journal*, December 1878.

IMPETIGO CONTAGIOSA.—Dr Van Harlingen had an opportunity of observing 20 cases of impetigo or porrigo contagiosa at New York during the course of a week or two. He regards the disease as rare, since these 20 cases were the total number met with in 1000 examples of skin diseases. To test its contagiousness he inoculated himself on the forearm with the contents of a typical vesicle, and covered the part up carefully. In forty-eight hours a distinct vesicle, the size of a pin's-head, appeared, which soon became transformed into a yellowish crust. A further inoculation with the fluid of the secondary vesicle produced a similar one, and both completely healed in course of a fortnight. Impetigo contagiosa is, according to him, distinguished from eczema by its contagiousness, by its peculiar mode of crusting (as Tilbury Fox has well described it " by the crusts appearing as if stuck on), and by the entire absence of itching; from impetigo simplex, because in impetigo contagiosa the initial lesion is a superficial vesico-pustule, somewhat like the vaccine pustule; in impetigo simplex the pustule is a true pustule, and more deeply seated. Since the affection generally heals spontaneously in ten to fourteen days, special treatment is unnecessary. (This may be true clinically, but it is of importance to destroy the activity of the pus, and thus limit the spread of the disease. This is best done by applying a weak white precipitate ointment to the surface after removal of the crusts (Virchow ü Hirsh, *Jahresbericht*, xii. Jahrgang).—From *Philad. Med. and Surg. Rep.*, Sept. 8.

REMOVAL OF SUPERFLUOUS HAIRS.—Dr Bulkley, in a paper prepared for the last meeting of the American Dermatological Association, describes a method different from that hitherto employed to destroy the follicle, and thus prevent the return of the hair. According to his account it works as successfully as the more severe methods by electrolysis, cautery, etc. He takes a small glover's needle with sharp edges, and inserts it in a slender handle and holds it in the right hand. He then seizes the hair with epilating forceps in the left hand, and extracts with gentle traction while the point of the needle is engaged in the orifice. It is then thrust into the follicle to a depth greater than that occupied by the hair, and rotated several times. When removed it will be seen to have adhering to it the epithelial elements of the follicular walls. The operation is not painful, and no appreciable scar follows the inflammation produced by it. Although seemingly simple, much tact and patience are found necessary to ensure successful results. Repeated attempts are often made before the needle enters the follicle, and Dr Bulkley does not claim that more than fifty per cent. of the hairs removed at an operation will be permanently extirpated. Many and repeated sittings are therefore necessary, and he finds it difficult to remove more than from twenty-five to forty hairs at once. With regard to the permanency of the results, one of his cases was operated on nearly two years ago, and the hairs remain absent. If such successful results can be obtained by this operation of closing the follicle mechanically, and producing adhesive inflammation in its walls, it should take the place of the more complex and painful methods above referred to.—*Archives of Dermatology*, October 1878, and *Boston Medical and Surgical Journal*, December 1878.

ON THE USE OF LINSEED AND ITS OIL.—Dr Sherwell, of Brooklyn, read a paper before the American Dermatological Association upon the therapeutical value of linseed in skin diseases. Inferring from its nutritive effect upon animals that it would act in a similar way upon man, he used it both externally and internally in harsh and dry conditions of the skin, chronic eczema, icthyosis, xeroderma, pityriasis rubra, etc. He presents details of four cases in the recovery of which he attributes the chief agency to this material. He employs three methods of administration. In the first, the patient carries about with him a pocketful of the raw seed—that from Calcutta preferred—and eats it at intervals during the day. In this way a cupful may readily be disposed of. As the seed contains thirty per cent. of oil a considerable quantity is thus easily assimilated. In the second way, the seed is coarsely ground, and made into a porridge with milk, of which an ounce or more may be eaten at a time. In the third, the meal may be made into bread and eaten, but he does not give this equal value with the raw methods. Externally the oil is praised for its bland and soothing qualities, and for its slight tendency to decomposition. Flesh was rapidly gained by its internal and external use in the cases cited, and the skin assumed a healthy state in a surprising manner. —*Archives of Dermatology*, Oct. 1878, and *Boston Medical and Surgical Journal*, Dec. 1878.

Part Fifth.

THE BOSTON SOCIETY FOR MEDICAL OBSERVATION

MEDICAL NEWS.

H.R.H. the Prince of Wales has graciously consented to be the patron of the Hospital for Women, Soho Square, London.

MEMBRANOUS CROUP AND DIPHTHERIA.—We have received a copy of the Report of the Scientific Committee, appointed by the Royal Medical and Chirurgical Society of London, to investigate the relations between membranous croup and diphtheria. This valuable document, which contains 168 8vo pages, is to be discussed at meetings of the Society, to be held on the 8th and 22d April. When the discussions have been published we propose to review the Report together with them. The committee have substantially adopted the now increasingly favoured view, that membranous croup is the same disease as largyngeal and laryngotracheal diphtheria.

OBITUARY.

JOHN SMITH, M.D., F.R.C.P.E., F.R.S.E.—This well-known and much respected physician passed away on 4th February. Dr Smith constituted a curious link with the past: he was born in 1798, three months after his father's death, who was 70 years of age, thus bridging over 151 years; and it is even more interesting to record, that his grandmother was born early in 1685, during the reign of Charles the Second.

Dr Smith was educated at Heriot's Hospital, his mother having been left in poor circumstances; and on Dr George Wood applying to the Governor of that institution for a likely lad as an apprentice, John Smith was chosen. Working in this capacity and at the same time reading, he managed by dint of hard struggle to take his degree in 1823. He became Dr Wood's partner, and at his death succeeded to a considerable share of his practice, which included the management of Saughton Hall private asylum. Dr Smith has told the writer of this article that he believed he was the last Edinburgh physician who had ridden his rounds on horseback. For long Dr Smith enjoyed a considerable practice; we can remember him starting at nine in the morning, and rarely returning home till long past the dinner hour, tired and exhausted. His practice was a peculiarly mixed one; living in 16 India Street, he would first take the unpaying poor of Jamaica Street, then hurrying to his better-class patients, which consisted of many good city and county families; at one o'clock he was to be found regularly at the Charity Workhouse, in the Forrest Road, where he generally remained for two hours, passing from ward to ward, studying and treating each pauper patient with sedulous care; then on to Saughton, where each inmate was visited, and such meed of comfort and consolation were administered as was possible. Whether the patient was of high or low degree, he was never neglected. We have known the "old Doctor," as the paupers of "the charity" called him, suddenly remember, just as he was leaving, that he had not seen a particular case, and turning back, climb the long staircase to do his duty by the sick man. For more than fifty years John Smith worked the Charity Workhouse with undeviating sense of duty, for a mere pittance. When failing health compelled him to resign the appointment, he received the thanks of the Parochial Board! In his parochial capacity he worked through the various epidemics of cholera, typhus, and smallpox, which from time to time have visited the city, with unflinching courage. When the study of insanity was in its infancy Dr Smith contributed important papers on the pathological appearances observable in the brains of the insane; and Alison used in his lectures to speak with marked respect of the treatment Smith had adopted in a very untractable form of dysentery which made its appearance in Edinburgh about 1832–3.

But we must freely admit that what work he did died with him, in common fate with the work of most doctors. And yet not altogether, for he, essentially a non-assertive man, boldly asserted a position in the case of Milne who was tried for murder in 1859, and stated opinions, which although distinctly deprecated by the bench, have since exercised a great influence in more recent cases.

Dr Smith was President of the Royal College of Physicians in 1865–6. Those who knew him best will recognise most easily how difficult it is to describe his character—and how unnecessary. He was universally trusted and respected; his simplicity of character and his hatred of turmoil rendered it almost impossible that he should have enemies. Utterly unselfish, the fulfilment of duty was the aim and object of his life, and this object he attained.

Dr Jeffrey of Ayton.—Another fine old country doctor, aged before his time, died after a brief rest from the work of a laborious practice. Few who knew Dr Jeffrey of Ayton could help loving the man. His simplicity of heart and manner, his true manliness, kindness, and courtesy, were evident in every look and gesture.

His handsome ruddy face, surrounded by snow-white hair and beard, and his athletic form, gave promise of a green old age; but he had worked long and hard, had never spared himself, and latterly symptoms had shown themselves which made his friends fear that the end might be soon and sudden. He died while staying for a time with his elder son, Dr William Jeffrey of Jedburgh. His younger son, also in the profession, was able to share his work at Ayton, where he will be long missed and mourned.

MR JOHN F. T. MELVILL.—We have this month to record the death of Mr John Melvill, a very promising student of medicine from the Cape of Good Hope, who died of typhoid fever in the Royal Infirmary on the 18th of March.

After spending a year at the hospital in Cape Town, Mr Melvill proceeded to the University of Aberdeen, where for three years he pursued a very successful course of study, obtaining class honours in almost every class, winning the affection of his fellow-students, and securing the respect and esteem of his professors by his steady, conscientious devotion to work. After spending some months as assistant to Dr Seller at Radcliffe, he came to the Edinburgh University for his fourth winter session, and very soon earned for himself the same reputation which he had at Aberdeen.

When seized with fever, he continued at his classes for some days, but on the 20th February was obliged to give in. On the 22d he was removed to the fever wards at the Royal Infirmary, where everything possible was done in the way of kind, careful, attentive nursing, and of skilful, efficient, and devoted medical care. In spite of this, however, he sunk from asthenia on the thirtieth day of the illness, having been quite delirious for the last two or three days. The widespread sympathy excited by this untimely close of a very promising career at the early age of twenty-four, was manifested by the large attendance at his funeral on the 22d of March. All the professors and teachers of the classes he attended, with his medical attendants, were present. The students from the Cape of Good Hope, numbering over thirty, and more than a hundred of his class-mates, accompanied his remains to the Newington Cemetery, where a few appropriate remarks were made by the Rev. Mr MacMillan of the Dutch Reformed Church, Orange Free State.

Mr Melvill was preparing for his final examination, at Aberdeen, next month; and his friends at the Cape, and family at Pretoria, Transvaal, are expecting his return immediately after graduation. To all of them the news of his illness, and its very sad termination, will come as a severe and unexpected blow.

CORRESPONDENCE.

To the Editor of the Edinburgh Medical Journal.

Falkirk, 18*th March*, 1879.

Dear Sir,—Allow me to direct your attention to a paragraph in your March number, page 814, in a review of Dr Duncan's "Papers on the Female Perinæum," in which the word "shocked" seems a little out of place, unless the reviewer means to say that each of those he refers to has been telling a falsehood. The following is the paragraph:—"After finding the frequency of perinæal rupture so incontestably established by careful observation, one is shocked to hear it stated by obstetricians of many years experience, that notwithstanding very frequent operative interference by them, they never met with a tear of the perinæum in a life-time."

At page 845 of the same number of your Journal, there is a report of the meeting of the Obstetrical Society, at which I mentioned a case of stricture of the rectum which occurred after a severe labour many years since, in which it is said, "On examination the vagina and rectum were found completely laid into one, and the stricture could be felt posteriorly, like a second os uteri. Dr Hamilton repeated, that in his whole practice he had never had a case in which the *skin* of the perinæum was injured," etc. That practice has extended from 1833 to the present time, and I have again here to repeat that I have never *known* of the *skin* of the perinæum being injured in any case under my own care. I may add, that I have never heard any of these patients complain in the least of any such injury; and I have never in these either myself had to operate for the relief of such injuries, or have heard of others having done so. Hoping this will not "shock," but rather, for the sake of "womankind," please the reviewer, I am, yours, etc.

G. Hamilton, M.D.

PUBLICATIONS RECEIVED.

Robert Bentley, F.L.S., and Henry Trimen, M.B., F.L.S.,—Medicinal Plants, Nos. 32–37. J. & A. Churchill, Lond. 1879.

Dr Just Lucas Championnière,—Étude historique et clinique sur la trépanation du crane, la trépanation guidée par les localisations cérébrales. V. A. Delahaye et Cie., Paris, 1878.

Jules Cyr,—Etiologie et Prognostic de la Glycosurie et du Diabète. *Mémoire récompensé par l'Académie.* Pp. 172. Delahaye et Cie., Paris, 1879.

Surgeon-Major Albert A. Gore,—The Story of our Services under the Crown. Baillière, Tindall, & Cox, London, 1879.

Rustomjee Naserwanjee Khory, M.D. Brux,—A Digest of the Principles and Practice of Medicine. Smith, Elder, & Co., London, 1879.

E. Klein, M.D., F.R.S., and E. Noble Smith, L.R.C.P., M.R.C.S.,—Atlas of Histology, Part I. Smith, Elder, & Co., London, 1879.

Julius Pollock, M.D.,—Notes on Rheumatism. J. & A. Churchill, London, 1879.

Transactions of the Obstetrical Society of London, Vol. XX. Longmans, Green, & Co., London, 1879.

Victor C. Vaughan, M.D.,—Chemical Physiology and Pathology. Ann Arbor Printing & Publishing Co., 1879.

Joseph Wilson, M.D.,—Naval Hygiene. Lindsay & Blakiston, Philadelphia, 1879.

William Wood, M.D.,—Insanity and the Lunacy Law. J. & A. Churchill, London, 1879.

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION

Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*On Dystocia with Dorsal Displacement of the Arm.* By ALEXANDER RUSSELL SIMPSON, M.D., Professor of Medicine and Midwifery, and the Diseases of Women and Children in the University of Edinburgh.

(*Communicated to the Edinburgh Obstetrical Society, 26th March* 1879.)

IN 1850 Sir James Simpson made his well-known communication[1] to this Society on a "New Form of Obstruction in Head Presentations from Posterior Displacement of the Arm." In 1859 Mr J. Jardine Murray,[2] of Brighton, met with a similar case which he recorded, accompanied with some remarks by Dr Eastlake. In 1862 Mr Cox of Sudbury, among other cases in midwifery, records[3] a case of convulsions where the head presented "with the fore-arm placed across the back of the head." In 1867 Professor Playfair[4] published "Notes of a Case of Difficult Labour due to Displacement of the Child's Arm," in which after the delivery had been effected by craniotomy, it was found that the arm was displaced behind the head. In 1868 Dr Angus Macdonald[5] contributed to our Transactions the history of two cases of this form of dystocia that had come under his observation. And in 1870 Mr Lambert[6] described the subject more fully in a communication founded on a case of arm displacement, which did not, however, strictly belong to the same category, seeing that the forearm had fallen down below the head, although the arm occupied an unusual position, and was placed in relation to the posterior instead of the anterior part of the head. Reference to these, or some of these cases, form the staple of what systematic writers give when treating of this subject; and in Crédé's[7] exposition of the disturbances of labour from displacement of the arms along with the presenting head, he describes the dorsal displacement in this single sentence: "In very rare cases the upper arm places itself as far as the elbow straight up along the head, whilst the forearm lies in behind, in the nucha of the child."

---

[1] *Edinburgh Monthly Journal*, 1850, p. 389, and *Selected Obstetrical Works*, p. 381.

[2] *Medical Times and Gazette*, 1861, i. p. 627.

[3] *Dublin Quarterly Journal of Medical Science*, xxxiv. p. 281.

[4] *British Medical Journal*, 1867, i. p. 194.

[5] *Edinburgh Medical Journal*, 1869, i. p. 59.

[6] *Transactions of the Edinburgh Obstetrical Society*, ii. p. 203.

[7] *Klinische Vorträge über Geburtshülfe*, p. 563.

A week ago, on the 19th instant, Dr M'Watt asked me to see an out-door Maternity patient, as my colleague, Dr Macdonald, was unwell. The woman, Mrs M., 31 years of age, had already had six easy labours at the full term, the last eighteen months previously. She was last unwell in June, quickened in October, and was taken in labour before 8 P.M. on the 18th inst. She was ill all night. When seen in the morning, the os uteri had been found but slightly dilated, and the head presenting, but difficult to reach. She had had strong and constant uterine contractions all the day of the 19th. At 6 P.M. the os having been well dilated, and the head not descending, the membranes had been ruptured by Mr Wilson, the student in charge of the case, who felt then that there was some displacement of the hand. From this time, though the pains had been continuous, the labour made no progress. On the contrary, the uterine orifice seemed to have become narrower, and when Dr M'Watt had visited her at 9 P.M., he found the uterus acting irregularly, and, having introduced his hand so far as to recognise the dorsal displacement of the arm, came to ask my aid in the delivery.

I found matters as they had been described to me by Dr M'Watt. The external orifice of the uterus was deeply fissured from the previous labours, so that the anterior and posterior lips hung loosely apart. The head of the child was high up, quite above the plane of the brim. Four fingers were passed at once into the vaginal canal so as to get better access into the uterus, the walls of which were in a state of continuous retraction, with occasional painful efforts at more active contraction. The internal os was resistant. The head, which was of small dimensions, was high in the right occipito-anterior position; and to its left side, between the ear and the symphysis, the elbow could be distinctly felt. The relation of the head to the pelvis, and of the arm to the head, is represented in Fig. 1. The uterine walls were firmly closed round the child, and the tense fibres in the lower segment of the uterus formed a kind of shelf, on which the projection formed by the displaced arm was arrested. The child had not come into any relation with the pelvis, and the whole play of the labour was going on within the uterus itself. We

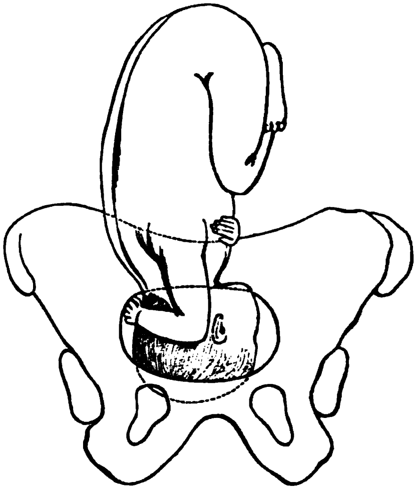


Fig. 1

chloroformed the patient so that the exact relation of the head and displaced left arm could be more clearly made out; and as her energy was exhausted and her pulse beginning to rise, we delivered her easily with a pair of Tarnier's forceps. When the head was drawn into the pelvis, the arm remained within the uterus and came down afterwards with the trunk. Strong compression of the uterus was required for the separation and expulsion of the placenta.

The child was a rather small female. After it was born it was easy to place the left arm, which was slightly congested, in the situation in which it had been felt in relation with the head *in utero.*

Frequency of Arm Displacement.—The relative frequency of head first labours complicated with procidence of one or both of the upper extremities, is variously given by different authors. Madam Lachepelle[1] found in 15,652 labours only eight with a procidence of the upper extremities either alone or with prolapsus funis. Hecker[2] gives eight in 3339, or 1 in 417 cases of descent of arm with head, as the statistics of the Munich Hospital. Pernice[3] has out of 2891 labours, 43 in which there was descent of hand or arm alone or with the cord, from the Halle Maternity. In the records of our own Maternity, Dr M'Watt finds 5 cases of descent of the hand or arm along with the head, among 2512 labours. The diversity of the figures may be due to the circumstance that, in some of the institutions, a note is only taken of cases where the whole arm was procident, or led to some delay in the labour, whilst in others all the possible deviations in the relation of the upper extremities were registered. In the Halle statistics, for example, there were only 8 out of the 43 cases that were full arm displacements. The remainder were displacements of one or both hands simply, or of hand and cord.

Degrees of Displacement.—I have met with illustrations of the three different degrees of displacement.

1. *Of the Hand.*—I have sometimes felt the hand with the fingers placed at the side of the head, or spread over the parietal bone through the yet unruptured membranes, and have seen, as is so commonly the case, that it was withdrawn beyond the head, so that when the waters escaped the head passed on alone.

2. *Of the Fore-arm.*—I have met the fore-arm coming through the brim of the pelvis, along with the head, when the second stage was beginning, and found it then easy to be replaced.

3. *Of the Arm.*—But the really difficult cases are those, of which I have also seen illustrations, where the upper segment of the arm was thrown along the side of the head, whilst the hand and fore-arm preceded it through the pelvis. The dorsal displacement cases belong to the same category. The peculiarity in this special variety of displacement consists in this that, whilst the arm proper is applied to the side of the head, it is an unusual relation. Commonly,

---

[1] *Pratique des accouchements*, iii. 214.

[2] *Klinik der Geburtskunde*, ii. 144.

[3] *Die Geburten mit Vorfall der Extremitäten neben dem Kopfe.* Leipzig, 1858. P. 11.

the arm lies in front of the ear, its bulk being added to the shortest transverse diameter of the head—the bi-temporal, whilst the fore-arm either hangs below the head in the parturient canal or is applied flatly to the side of the head. Occasionally, however, the arm is applied to the side of the head so that its bulk is added to the broader bi-parietal diameter; and it is when we have the arm in this position, with the fore-arm flexed at the elbow, and the hand lying behind the occiput, that we have the special form of dystocia signalized by Sir James Simpson, and which was present in Mrs M.

Mode of Production.—To inquire into the manner in which this displacement comes about would thus lead us into the general question of the causes of the procidence of the upper extremities, whether these are to be found in fault of the first, the second, or the third factor of labour. On this discussion I do not propose to enter. But I cannot help expressing the opinion that in our patient the primary fault most probably lay in irregular contractions of the uterus. She was a multiparous female, as all the others have been in whom this variety of arm displacement has been observed; and the multipara is more prone to irregular action of the uterus than the primipara. The pains which kept this multipara awake the twelve hours of the night of the 18th, and which went on painfully and continuously for ten hours of the following day, without leading to the usual rupture of the membranes, could not have been the pains of a regularly contracting uterus. The hand of the child was felt at the side of the head at the time the membranes were ruptured. Three hours later it was beyond the reach of the exploring fingers, and though we could fancy it to have been drawn up by the muscular action of the fœtus itself, we know that the lower segment of the uterus was by this time in a state of persistent retraction and intermittent action, so that the os then felt smaller than it had done when the membranes were ruptured. At the same time, I cannot doubt that the angularities of the compound fœtal presentation would tend to keep up the irregular action of the uterus already in process, and so a vicious circle would be established, under which without artificial aid the mother or the child, or both, would sooner or later have had a bad quarter of an hour of it. This leads me to offer a remark as to the

Cause of the delay, in such cases. When the arm descends with the head, it may have a deleterious influence in various directions, apart from the obvious difficulty caused by the addition to the bulk of the presenting part. Thus Crédé and Hecker both point out the preponderant frequency with which the occiput is turned to the right instead of to the left side of the pelvis in cases of arm procidence in general. This applies to the special condition under discussion. Of the six cases where the position is noted the occiput was to the right in three. *Secondly,* the elbow in some cases hitched on the brim of the pelvis and prevented its descent. *Thirdly,* we must theoretically believe that the head as it travels through the pelvis accompanied by the arm so displaced will be hampered in its usual movements, though of this we have no recorded observation. But, *fourthly*, in our case the delay was clearly due to the detention of the irregularly shaped compound presentation of the child within the irregularly contracted uterus. There was certainly no hitching on the pelvis. The uterus and its contents might have been pushed simultaneously into the brim. The head would have been free to pass under the impulsion from above of a truly acting uterus; but during an examination, one got the impression that the irregular projection of the elbow beside the head had the effect of an irritant on the uterine nerves, and disturbed the normal current of uterine action.

Treatment.—I do not enter the wide field of the management of dystocia from arm displacement, or even from the dorsal displacement of it. In Sir James Simpson's case, he replaced the arm by a movement, the first stage of which is represented in this woodcut (Fig. 2). In our case, however, there seemed to me but two alternatives: on the one hand sedatives might have been administered to allay the uterine irritation and arrest the uterine action. But the long escape of the waters and the commencing rise of the patient's pulse, made the alternative indication of immediate delivery by forceps very clear. And on the other hand, there was every prospect that a force acting steadily on the head would either bring it alone through the cervix, whilst the elbow was detained above the contracted shelf in the lower segment of the uterus, or that if the arm descended with it, they would travel together safely through the roomy pelvis. The forceps, accordingly, was put on and the head alone came down in their grasp under a traction, which was very gentle, but which was kept up so continuously and so long, that when the head came to the floor of the pelvis, Dr M'Watt shrewdly remarked that surely I was breaking one of the rules for the working of the forceps. He referred, of course, to the rule which teaches us to work only with pains, and where no pains are present only at intervals. But whereas powerful and interrupted traction would have been likely to irritate the uterus, and might even have endangered its structures, we know that a spasmodically contracted part of it will yield to gentle, long-continued pressure either from below or from above. Hence the traction which called forth Dr M'Watt's criticism,—a traction which may beneficially be adopted in some other forceps cases also; and a traction, I may add, to which the Tarnier traction-rods lend themselves very kindly.

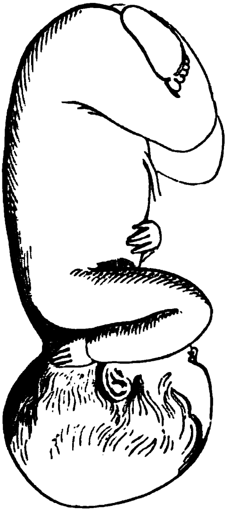


Fig. 2.

ARTICLE II.—*Pain as a Symptom of Fracture.* By JOHN DUNCAN, M.A., F.R.S.E.; Surgeon to the Royal Infirmary; Lecturer on Surgery.

THERE is a want of perspective in our surgical symptomatology. We do not formulate for each sign its precise relative value. The consequence is, that on the one hand the inexperienced fail, among a mass of unknown quantities, to draw definite conclusions; while, on the other hand, experience, gradually teaching us to single out the indications which are important, tends to the formation of diagnosis upon an insufficient basis. Fractures afford an illustration of this deficient perspective. Can there be anything more unmeaning than the common division of the symptoms into equivocal and unequivocal? What advantage is it to know that mobility is unequivocal if sometimes it does not exist at all, and at other times is present though it cannot be recognised? Or why call pain equivocal when sometimes it is pathognomonic, and may be the only reliable means of diagnosis? All symptoms are equivocal under certain circumstances, unequivocal under others. The fact is, that we have in surgery a number of hereditary technicalities, which are utterly useless and may be misleading; and among the most absurd of them are such terms as true and false, equivocal and unequivocal. The result is, that we see the surgeon endeavouring to elicit crepitus when a few careful measurements might avert from his patient the most excruciating torture, or striving to detect mobility when the aspect of the limb is amply sufficient for his purpose.

My present object is to give precision to our estimate of pain as a symptom of fracture. Its value has, I believe, been generally under estimated, and it is certainly desirable that for this as for all the signs the value should be carefully determined.

We shall find that pain may be useful to us in two ways. It may clear up cases that otherwise would be exceedingly difficult, and in easy cases may save the patient farther suffering in the process of investigation.

Pain may present itself in connexion with fracture under three varieties: 1, as such, pure and simple; 2, as pain on motion; 3, as pain on pressure, or tenderness.

These three varieties are usually concomitant at the site of fracture. But they are so also in many other injuries, and as positive evidence this concomitance is not of much significance. It may happen, however, that its absence is worthy of note. Thus, there can be no fracture if pain be not felt on moving the part, even though the other forms of suffering be very prominent after an injury. Or, again, with some fractures, although it is more common with dislocation, pain is referred entirely to a distant part of the limb. In these the absence of pain on pressure and motion proves that the injury, whatever it may be, does not lie at the spot to which sensation is referred. It is not unfrequent to have a dislocation of the humerus supposed to be a sprain of the wrist, and I have seen a fracture of the neck of the humerus missed from the same cause. This error could not have arisen if the point I have referred to had received due attention.

But according to the circumstances under which it occurs, its position, severity, and combinations, each variety of pain is capable of affording valuable information. Let us take them in their order.

Pain alone, and simply as such, is certainly not often of much significance, even though we leave out of account the possible difficulties arising from referred sensation. In the case of direct violence, pain at the injured spot indicates merely the locality of the injury, and the same may usually be affirmed of injuries produced by muscular action. In the one, bruising of the soft parts; in the other, rupture of muscular or fibrous textures is not thus to be distinguished from fracture.

In examples of injury from indirect force, the reliance to be placed on this symptom varies with the part injured. In the neighbourhood of a joint it may mean strain or dislocation, but the more nearly its site approaches to the line of weakness in the shaft of a long bone, the more probable is it that pain is produced by fracture. It never, however, becomes pathognomonic. Other symptoms are required for confirmation, are generally more reliable, and sometimes are as easy to ascertain.

The pain produced by motion may be of greater use. It is logically evident that if we can impress motion on an injured but healthy bone by means of force applied at a distance from the part hurt, and without in any way disturbing its surroundings, the pain so elicited must mean fracture and nothing else. Practically this is not always possible. Force may be applied to the injured bone either as a cross strain or by pressing the ends towards each other. By the former method tension is also most probably brought to bear on the surrounding soft parts. By the latter the result may be vitiated by the neighbourhood of a joint, and in the shaft of a bone is usually rendered of little value by the fact that other symptoms are more distinct and as easily ascertained.

Nevertheless, there are circumstances in which the presence of pain on motion becomes important. Let me mention one or two.

It is not, perhaps, a matter of much moment whether a blow upon the chest have led to fracture of the ribs or not, and inasmuch as the treatment is similar for severe bruise and for fracture, surgeons are often content to leave the question undecided. An accurate diagnosis, however, may in medico-legal cases be important, and is always satisfactory both to surgeon and patient, if it can be made without injury to the latter. I think it possible to do so by means of the pain elicited by motion, when it would be unjustifiable or difficult to bring out such symptoms as crepitus or increased mobility. Having ascertained that the pain on pressure of the injured part is situated over one or more ribs (if it be not so, there can be no fracture), the surgeon should trace these ribs to a distance of some inches. When at this distance from the bruising, firm pressure is made, severe pain will be developed at the fracture if there be fracture, little or none if there be not. It is only necessary to be accurate as to the bone pressed upon.

Again, fracture of the neck of the femur often gives rise to difficulty in diagnosis. The depth and other conditions of the fracture make it sometimes far from easy to ascertain the crepitus and abnormal mobility, and we therefore rely largely on the deformity, as ascertained by careful measurements and comparisons. I believe that the most experienced men are occasionally deceived. There exists a well-known class of cases, in which, although the absence of eversion and shortening has been at once accurately determined, it is discovered (perhaps after the patient has been moving about with difficulty for months) that there is shortening often to a considerable extent. The explanation commonly given is that chronic interstitial absorption of the neck of the bone has taken place. I do not think that this has been well made out. I would not deny the existence of this interstitial absorption, but it is not easy to understand what physical injury other than fracture would be sufficient to set it up. I believe that a fracture, in which the surfaces are crushed into one another, is more frequent here than is generally supposed, and that in some a considerable amount of absorptive action ensues. But I know also that shortening sometimes comes otherwise than by absorption. I have on several occasions met with cases, of which the following is a type :—An elderly man was admitted to the Infirmary last November, having been knocked down by a horse at Hallow Fair. He had a fracture of the lower end of the right radius, and complained of severe pain in the left hip. There was no shortening, no eversion, no crepitus, but, from the character of the pain, I had a strong suspicion of fracture of the neck of the femur, ordered him to be kept in bed, and had his leg measured once a week. The third measurement showed a shortening of one inch, which had, therefore, occurred between a fortnight and three weeks after the accident. I have notes of two cases in private practice in which shortening similarly took place in the third and in the fourth week respectively. The only explanation plainly is, that there was fracture which had yielded to muscular action when softening of the impacted parts had sufficiently advanced. Now, the true way to save the surgeon's credit is to make a correct diagnosis at the first—not to hedge by stating that there is only a bruise, but that such bruises are prone to produce shortening. This diagnosis may be made in two ways. One method consists in giving chloroform, and so moving the leg as to elicit crepitus, when you will also probably find that you have succeeded in producing shortening and eversion. The other, and, as I think, the better mode is, having weighed well all the circumstances, to confirm the diagnosis by the character of the pain produced by movement. I have not yet satisfied my mind by a sufficient number of cases, but I am nearly certain that, if the pain caused by inversion be considerable, a fracture has to be dealt with. Pain on eversion and flexion are also greater with fracture than with bruise, but the distinction does not appear to be so marked. No doubt, in a case of chronic arthritis a bruise cannot thus always be distinguished, but the history and concomitants must then be called to our aid.

Many other fractures have special characteristics in reference to the motions which produce pain. I have not worked out the details, because they appear not of such practical importance as to require individual mention.

As a symptom of fracture, then, pain on motion is generally of value only in so far as it confirms others. Sometimes it rises to a more prominent position. Often its absence gives assurance of the absence of fracture, for if it be possible to impress motion on a fractured bone it is certain that pain will be produced.

Tenderness or pain on pressure over the injured part is invariably present in all cases of fracture. It may be definitely affirmed that this tenderness is experienced round the whole circumference of the bone in the line of fracture. The question is, How can this law be practically applied? Its usefulness varies according as the fracture has been produced by direct or indirect violence, and I think it will be found that as a negative sign it is decisive, if not always clinically valuable, and that as a positive indication of fracture it is also of great importance.

In direct fracture from the depth and situation of the bone, it may not always be possible to apply the test with precision, and even when the bone is partly superficial, that is precisely the portion of its contour most likely to be covered by tissues which the blow has also bruised. But it may be that the whole bone can be felt, or that the opposite side from that struck is in a position which can be reached. If it be so, the presence of pain on pressure indicates fracture, and its absence proves that there is none.

But in fractures produced otherwise than by direct violence, pain on pressure attains its highest value. The same circumstances as in direct fracture, no doubt, impede more or less the precision with which the fact can be ascertained. The bone may be so deep or so situated that it cannot be directly pressed upon in the whole or some part of its circumference, and injury of the soft parts in the neighbourhood may under certain circumstances be produced by indirect violence. But these impediments are not so serious as in the former case.

The first impediment does not interfere with the negative value of the sign in injury from indirect any more than from direct violence. If any part of the contour of a bone be subjected to pressure without pain it is certainly not broken on that particular level. And this is of practical value especially in the vicinity of some of the joints. The elbow, for example, has been violently wrenched. By putting the arm in the easiest position, and then running the finger along the exposed edge of the ulna, pressing together the condyles of the humerus and their ridges, and feeling the head of the radius, you may distinctly determine that there is no fracture without further examination. And, on the other hand, the depth or situation of the bone does not necessarily impede the discovery of fracture by this sign. It is not essential that the whole circumference of the bone should be exposed to pressure. A very small portion will suffice, if it be immediately under the finger, if the painful spot be in the usual line of fracture, and if the cause of the injury be undoubtedly indirect. Take a common example of fracture from indirect violence, Pott's fracture of the fibula. Even though there be no displacement, the diagnosis of fracture may be made with certainty, if there be pain on pressure above the external malleolus, and especially if this be accompanied by tenderness over the internal lateral ligament of the ankle-joint. It is only, therefore, when the bone is altogether so situated that the pressure applied loses in precision that this circumstance interferes with the usefulness of the symptom.

The other impediment, that, namely, of injury to the soft parts from indirect violence, is not, in most cases, one of much moment. In the neighbourhood of joints it must be borne in mind. In the shoulder-joint there are fibrous expansions of the tendons, extensions of the joints, capsule, and bursæ, over the bone, which are prone to be injured and become sore to the touch. There is also naturally a tender spot over the anterior tuberosity, which becomes much more painful in disease or after injury. In this region, therefore, no reliance, or very little, can be placed upon this sign. In the knee, also, the curiously tender spot over the lower part of the inner condyle should not be allowed to lead to confusion.

But with a few well-defined and easily-ascertained exceptions of this sort, the proposition may be maintained, that if the violence be indirect, pain on pressure over a bone indicates fracture, its absence negatives the possibility of the bone being broken. That does not mean, of course, that this sign is always to be placed in the front rank. What I have called the perspective of symptoms must be maintained, and it varies for each case. Sometimes, as in fractures of the shaft of the humerus or femur, mobility stands first, crepitus second, and tenderness only third. In other cases deformity is of greater importance. But not rarely pain may be really the leading and even a pathognomonic symptom.

Let us consider for a moment the diagnosis of the two most common fractures of the body, that of the lower end of the radius d of the middle of the clavicle. They are both due invariably or almost invariably to indirect violence. If a person fall upon the palm of the hand he may sustain one of three injuries from the bending backwards,—a dislocation of the wrist, a sprain of the joint, and a fracture of the lower end of the radius. The first is so very rare as hardly to be worthy of discussion in the present connexion. I have only once seen it; and then, as I was manipulating to define the relations of the styloid processes, the joint slipped into position. I cannot say, therefore, from experience, what the exact situation of tenderness is. Doubtless it is over the joint itself; but doubtless, also, the diagnosis depends on the deformity.

As to the means, however, of making a comparative diagnosis between the other two, I am absolutely certain. The characteristic deformity of Colles' fracture is marked in at least nine cases out of ten, and there is required for diagnosis nothing more than careful inspection. But in the tenth case the deformity is so slight as not to be easily made out, or is masked by the general swelling. It is in the distinction of these more obscure examples from sprain that tenderness plays its *rôle*. If there be a fracture, the pain on pressure is most severe above the level of the styloid process of the radius, both before and behind; if there be a sprain, the pain is in the region of the joint. It is impossible to have anything more definite and precise.

In fracture of the clavicle, pain on pressure is also pathognomonic. You have only to run your finger along the line of the bone. No doubt, in all cases for purposes of treatment you ascertain whether deformity is present. But that is not necessary for diagnosis, and its absence is not a source of embarrassment. Tenderness here is the important sign; swelling and deformity come next, and no other sign—neither mobility nor crepitus—need or ought to be sought for.

I have not attempted to deal with my subject in an exhaustive manner by going over all the possible fractures in the body. I have endeavoured to show that in each case a special order of importance ought to be given to the various signs, and that in not a few, pain in some of its aspects is of great importance sometimes as a pathognomonic, sometimes as an essential, and sometimes as a confirmatory symptom.

ARTICLE III.—*On the Influence of Head-Movements on Audition.* By Dr VICTOR URBANTSCHITSCH, Lecturer in the General Polyclinic of Vienna. Translated by J. MACKENZIE BOOTH, M.A., M.B., C.M., Aberdeen.

DURING a mountain ascent I observed that all the more pronounced movements of the head had the power to exercise a peculiar influence on the sensibility to sound. It appeared to me remarkable that on every inclination of the head, I perceived the rushing of water weaker and duller, while on lifting it again the noise appeared fuller and much more intense; every time the head was held upright I had the impression that a greater volume of water was pouring from all sides. Of this observation I have made use in further research, the results of which form the subject of the following communication:—

The ear only perceives a continuous sound (as the rushing of water or the noise of an induction-apparatus) to the same extent, so long as there is no considerable movement of the head. If, however, while the trunk is fixed, the head be moved forward, backwards, or laterally, there follows a change in the perception of the sound, and in my own case the higher tones in the noise recede, whereby it appears strikingly duller. On a quick return of the head in the long axis of the body, the higher tones reappear in the noise, which is then heard decidedly fuller. Alterations in the quality of the sound on movements of the head have already been noticed by Mach, and ascribed by this author to a changed position of the auricle with respect to the source of the sound. It had, therefore, first to be decided whether a changed position of the auricle to the source of the sound was the cause of the change in audition observed by me. With this intent I repeated the same experiments with the shape of the auricle previously altered, by being stuffed with wadding, &c., but without arriving at any different result. If I further, during a continuously produced sound, incline the body so that the head does not deviate from the long axis of the trunk, I notice a slight change in the sound. I resume the upright position, and incline the head alone to the same angle which was before attained in bending the body, and there ensues a more important difference in my perception of the sound. Although in both instances a like change of position of the auricle with reference to the source of the sound was made, there occurred a more decided withdrawal of the higher tones in the sound on head-movement alone, than when accompanied by an inclination of the trunk. It is deducible from this, that such an alteration in the audition depends not on the auricle solely, but must be ascribed to some additional cause.

In favour of this view, too, is the observation, that a powerful depression of the lower jaw, as also tension of the palato-pharyngeal muscles, has the power to produce a considerable alteration in the sound perception. In these the auricle can have no possible influence on the hearing, as the relative position of the concha to the source of the sound remains unchanged; while certain slight conjoint movements of the external ear, from a strong pull on it in certain directions, for instance backwards and upwards, are easily dismissed from notice.

We have also simple tension of the palato-pharyngeal muscles, giving the same results that movements of the head produce in respect of the changes in sound-perception; therefore the thought occurs, that tension of these muscles may be in part the cause of auditory alterations occurring on movements of the head. It has first to be seen, then, whether head-movements can exert any influence on the tension of the palato-pharyngeal muscles, and as among them only those which stand in relation to the Eustachian tube come under consideration, the question to be settled is, whether changes in the muscular apparatus of the Eustachian tube follow movements of the head. Zaufal's observation by means of the nasal speculum affords a reply of a positive sort to this question, that on a strong forward movement of the head, a movement of the pharyngeal mouth of the Eustachian tube is plainly perceptible. To this corresponds Lucae's assertion, that on a sudden movement of the head forwards and downwards air enters the tympanum more easily than when held upright. In this case the mechanical elevation of the anterior tubal lip from the posterior, formerly upheld by Lucae, may not be the only result, but there could also enter into consideration the tension of the muscular apparatus of the Eustachian tube as caused by the head-movement. This acceptation seems already justified, because not only on a forward, but also on a lateral movement of the head, air gets more easily through the tube. Gruber remarks that with the head bent laterally, air streams much more readily into the ear directed upward than into the other. As I have already on another occasion pointed out, this is produced by an increased tension of the moving apparatus of the Eustachian tube on the side which is turned upwards in this experiment. In behalf of this view, we have the facts that with the naso-pharyngeal space closed the pressure necessary for inflation of the tympanum is less in many cases, as that with the same pressure air is more strongly driven into the tympanum if, instead of a previous movement of the head, synchronously with the inflation the palato-pharyngeal muscles are strongly put on the stretch. In this wise we sometimes succeed in pressing air into the tympanum in cases where otherwise during swallowing or phonation the inflation cannot produce an opening of the Eustachian tube.

Another pertinent observation concerns the occurrence of a crackling noise in the ear. This is sometimes perceived on a quick movement of the head, in which occasionally the motion in order to produce the crackling must take place in a certain direction. Such a crackling can be produced at will by contraction of the palato-pharyngeal muscles. According to Schmidekam and Hensen, the voluntary production of the noise is favoured by the head being strongly bent backwards, and this speaks for the occurrence of increased tension of the salpingo-pharyngeal fascia, which, says Troeltsch, is in connexion with individual fibres of the abductor tubæ (tensor veli) muscle. But, according to Politzer's experimental investigations, the cause of crackling noises in the ear lies in the lifting up of the membrano-cartilaginous tube wall from the posterior cartilaginous plate following contraction of the tensor veli; Luschka also expresses the same opinion in his *Anatomy of the Human Throat*. Boeck found opportunity in one case to confirm these statements of Politzer and Luschka, by rhinoscopy of a patient who suffered from clonic spasm of the palato-pharyngeal muscles, which was accompanied by a plainly audible subjective and objective crackling in the ear. Closer observation showed that quite isochronous with the movements of the larynx and soft palate, the anterior lip of the Eustachian tube was drawn away from the posterior and again pressed down upon it. So Schmidekam and Hensen observed an elevation of the soft palate along with the crackling. Zaufal remarked in one case of voluntary opening of the tuba along with the occurrence of crackling a distinct movement of the tubal eminence; and this he specially distinguishes from the opening visible during phonation and swallowing.

With the proof that every time the head is forcibly bent there ensues a contraction of the palato-pharyngeal muscles and consequently of the tensor veli, we have a possible influence on the tensor tympani, whose connexion with the tensor veli was first proved by Troeltsch. According to Kessel, with every contraction of the tensor tympani a conjoint movement of the tensor veli takes place, and *vice versa*. Other observations on the living also contend for such a conjoint action of these two muscles. Schwartze describes a case of clonic spasm of the tensor tympani with corresponding movements of the velum. Politzer mentions a case of voluntary contraction of the tensor tympani with synchronous movement of the palatal muscles. According to Weber-Liel, who in his book (on the nature and cure of the commonest form of progressive hardness of hearing) descants at length on the relation of the tensor veli to the tensor tympani, a contraction of the latter muscle also followed that of the internal pterygoid.

As an inward movement of the ossicles ensues on every contraction of the tensor, and, consequently, not only a changed vibratory capability of the drum and ossicles, but also a stronger pressure by the base of the stapes on the labyrinthine fluid and on the peripheral extremities of the acoustic nerve, we have the possibility of an indirect action of the tensor veli and internal pterygoid on the hearing. In this way Politzer explains the deafness occurring during yawning from a conjoint movement of the tensor tympani due to contraction of the tensor veli. Helmholtz entirely agrees in this view. For the contraction of the tensor veli taking place during yawning, we have the crackling in the ear observed by Schmidekam and Hensen at the beginning of a yawn; and similarly in his case, Zaufal observed an opening of the tube ushered in by crackling. The light pressure of air into the tubal canal during a yawn likewise happens from the increased tension of the tubal muscles incidental to yawning, and an opening of the canal thereby occurring.

Besides hardness of hearing, subjective noises in the ear occur in yawning; so Weber-Liel observed a singing noise in transverse displacements of the lower jaw, whereby the internal pterygoid muscle on one side is contracted. I also notice a singing in the ear with every strong inclination of the head, and from what has been already said, I would refer the same to an increased tension of the tensor tympani.

It now remains for discussion, whether the changes in audition occurring on movements of the head can also be ascribed to a heightened tension of the tensor tympani. As already mentioned, in my own case on movements of the head, as in contraction of the palato-pharyngeal muscles, there follows a recedence of the high tones in the noise of my induction apparatus, and the majority of the individuals experimented upon give the same result. In a small proportion a nearer approach of the higher tones occurs, while again in isolated cases no change in the audition can be made out. With reference to this, the examination of two sisters with great musical talent gave a very interesting result: while in one, during contraction of the palato-pharyngeal muscles not only did the high tones in the induction apparatus recede, but the deep tones themselves were heard yet deeper, the other sister, during repeated trials, declared that to her the noise appeared decidedly higher. Dr Kiesselbach, who possesses a very practised musical ear, invariably declared in many experiments, that during tension of the palato-pharyngeal muscles he perceived the sound of an induction apparatus only weaker, but with the quality unaltered, while on investigation with differently pitched tuning-forks the tone appeared plainly somewhat higher. In these statements received from the individuals experimented upon, and differing so widely from one another in the changes taking place, it is important to bring forward the results that physiological researches on the influence of increased tension of the tensor tympani on audition have hitherto afforded.

During contraction of the tensor tympani, Politzer found the tone of a tuning-fork strikingly damped with a marked prominence of the overtones. Lucae states that Professor Klebs, with voluntary contraction of the tensor tympani, heard the deep tones decidedly stronger. From the experiments of Mach and Kessel it appears that the tensor tympani prevents the approach of the higher tones less than that of the lower. Shapringer noticed on himself, with voluntary contraction of the tensor tympani, a disappearance of the deep tones. Blake and Shaw found in their experiments with the sound rods of König, in a case of voluntary contraction of the tensor tympani, a decrease in the perception for deep, and an ascent in that for high tones. Burnett describes a case of morbid retraction of the drum and soft palate in which, on every spasm, the tone of the tuning-fork appeared higher.

On the other hand, Burnett found, from the experiments made by him in Helmholtz's laboratory, that increase of the labyrinthine pressure past a known point exalts the function of the ossicles and foramen rotundum, and the cessation of their function follows sooner in high than in low tones; also in general that where the intra-auricular pressure is raised, a comparison of the ossicular vibrations in high and low tones is in favour of the latter.

From all these statements it appears that experimental research gives no conclusive result with regard to an increased tension of the tensor tympani. On the contrary, it appears from the same that, by a retraction of the tensor tympani, a weakening of the vibratory capability of the sound conducting apparatus is produced which has generally more influence on deep than on high tones; on which account prominence of the high tones occurs in most cases of increased tension of the tensor tympani. On this account it was very striking that, on forcible inclination of the head, on voluntary contraction of the palato-pharyngeal muscles, and during increased tension of the tensor tympani, most of the individuals experimented on by me perceived the sharp hiss of the induction apparatus much weakened, or not at all, while on relaxing the tensor the high tones again became suddenly prominent.

I accordingly instituted more precise trials with different tuning-forks. On this it appeared that one part of the examinees during tension of the palato-pharyngeal muscles remarked a change of tone well, but were not able to define it more closely. Another part observed a distinct heightening of the tone, whilst yet another portion pronounced it lowered; finally, several informed me that the tone remained unchanged in quality, but presented variations in quantity, being damped in most, and more rarely heard increased.

A similarly arranged examination with the noise of the induction apparatus showed that the hissing high tones of the noise during contraction of the palato-pharyngeal muscles receded, both in those individuals who only perceived a quantitative change in the tone of the tuning-fork, and in those who perceived the high tones themselves increased.

The results of the examination by the tuning-fork, and that by the noise of the induction apparatus, gives a direct contradiction. This, however, may be only seeming, because, in the induction apparatus I generally use, the deep tones are much more intense than the high ones, to which fact I had not unfrequently to call the attention of those experimented upon. It would be, therefore, quite possible that, on sound perception being lessened, and this concerning the deep more than the high tones, still a lapse of the high tones could result, while the deep tones, though weakened in virtue of their originally great intensity, remained always distinctly perceptible.

I would again indicate, that in the majority of those experimented upon, among whom were well-educated musicians, during tension of the palato-pharyngeal muscles, not only was the noise, but also the single tone of the tuning-fork heard decidedly deeper.

Of greater importance in accepting retraction of the tensor tympani as happening in head-movements, appear to me crucial experiments on those individuals in whom considerable pathological retraction of the tensor tympani already exists, and in consequence an increase in tension is only possible to a slight degree or not at all; further, cases in which the tensor tympani can have no influence on the movements of the stapes.

Accordingly I next examined patients with chronic catarrh of the middle ear, where there existed considerable retraction of the drum with a horizontal position of the manubrium, and an abnormally strong retraction of the tensor tympani. In these it appeared, especially plainly in unilateral or unequally advanced bilateral affections, that during contraction of the cervical muscles, the subjective perception of a singing noise on the side of the more retracted drum became strikingly weaker than on the opposite healthy or less affected ear; correspondingly, experiments with a continuously produced sound gave a much more important difference in the perception of the noise on the healthy or less affected side, than on the opposite ear on which the subjective hearing sensibility was weak or wanting. Further examinations showed that greater or less retraction of the tensor tympani is no criterion of a graver or slighter alteration in the hearing sensibility; also, that in the same individuals on the side of the strongly retracted tendon of the tensor tympani, the change in audition during tension of the palato-pharyngeal muscles can be more marked than on the other ear with the retraction less pronounced or absent.

It appeared to me on this account important to undertake a separate examination of each ear. These examinations now showed, that a change in audition occurring on contraction of the palato-pharyngeal muscles may happen with different intensity on the different ears in those with normal hearing, indeed, is sometimes perceptible only on one side. I repeatedly found individuals with normal hearing who, on the strongest movements of the head, could not perceive any change in the noise.

On the acceptation that an alteration in audition may take place through an influence of the tensor veli on the tensor tympani, the question obtrudes itself, whether, perchance, in the relation of those two muscles to one another, individual varieties are prevalent. My anatomical researches on this point showed that the relation of the tensor veli to the tensor tympani was not constant, and that the corresponding conjoint action of these two muscles must be considered as individually very diverse. It would also be quite clear from the anatomical stand-point, that contraction of the tensor veli, occasioned by head-movements, does not always produce an equally strong retraction of the tensor tympani.

Amongst the pathological cases taken for investigation were several individuals with extensive destruction of the drum, in whom the tensor tympani, in consequence of diminished resistance of the membrane, had pulled the remnant of the drum and the manubrium so far inwards that the latter had a horizontal position, and was placed in near contact with the inner wall of the tympanum. A number of individuals so affected observed, during contraction of the palato-pharyngeal muscles, little or no change in the sound perception, as was likewise affirmed by patients with the drum and manubrium highly retracted.

In certain patients, in spite of almost total destruction of the drum and retraction of the manubrium, during contraction of the cervical muscles, a subjective sensibility to sound and a change in the perception of the noise were plainly present in the affected ear; so that, in our consideration of these cases, we must accept a still greater capability of retraction of the tensor tympani. These last cases are also worthy of remark, because they plainly demonstrate that alterations in audition, on contraction of the palato-pharyngeal muscles, are not to be referred to changes of tension in the drum only.

With regard to the second group of diseased cases under consideration, viz., those in which an influence of the tensor tympani can no longer be exercised on the stapes, they render the direct proof possible as to whether the hearing phenomena in question are to be ascribed to the tensor tympani or no. Here are cases of division of the tendon of the tensor tympani, and luxation of the malleo-incudal and incudo-stapedial articulations. Respecting the latter, I have hitherto found the opportunity of prosecuting the investigations in point in two cases. In one of the cases the experiments gave no result, because the patient belonged to that class in which, during the strongest contraction of the palato-pharyngeal muscles, no change in audition was perceptible even on the healthy ear. The other patient, on the contrary, in whom there existed on the right side an incudo-stapedial luxation, and on the left a chronic catarrh of the middle ear with continuous buzzing, observed in the right ear no subjective sound-perception, nor a change in the quality of a noise, while on the left ear the buzzing appeared stronger and higher, and at the same time the high tones in the noise of the induction apparatus vanished. The want of change in audition, which was observed in this patient on the side of the dislocated incudo-stapedial joint, accorded entirely with the acceptation that alterations in audition, occurring during contraction of the palato-pharyngeal muscles, are due to an influence on the tensor tympani.

I must, however, expressly state that, with a like position of the manubrium on both sides, the changes in hearing are sometimes remarked only on one side, on which account I can ascribe no weight to the results of this single case.

Therefore one of several similar cases may be cited, in which I performed tenotomy of the tensor tympani, and had made sufficient trials of the hearing both before and after the operation. The patients referred to stated before the operation, that on every inclination of the head, as also on strong pressure being exerted on the head, they perceived in the ear to be operated upon a change in the tone of the tuning-fork and in the noise of the induction apparatus. After tenotomy of the tensor tympani the tone of the tuning-fork remained the same, and the noise of the induction apparatus, in spite of the strongest contraction of the palato-pharyngeal muscles in all five operated upon, was entirely unchanged; and the same happened after the closure of the perforation made in the drum, which took place within a week.

Thus we have, at least for these cases, direct proof afforded that the change in audition taking place during forcible bending of the head, and consequent contraction of the palato-pharyngeal muscles, is attributable to contraction of the tensor tympani; and I consider myself also justified in concluding in other cases, that the changes in audition on inclination of the head results not simply from a changed position of the auricle with reference to the source of the sound (as Mach stated), but to a great extent from contraction of the palato-pharyngeal muscles occasioned by these head movements, and specially of the tensor veli, which is in a position, through the conjoint action of the tensor tympani, to exercise an influence on the auditory sensation.

ARTICLE IV.—*Case of Milk-like Urine.* By JOHN HADDON, M.A., M.D., Manchester.

PERCY D., aged 3 years.

Family History good on both sides. He has several brothers and sisters, all healthy except one, who suffered from rickets.

Previous History.—He has always been in this district, and had measles when sixteen months old. He has had, since the end of September, a pustular eruption thinly dotted over different parts of the limbs, body, and face, without any symmetrical arrangement. The spots itched, and he scratched himself very much.

On *24th October* his mother noticed that he made urine more frequently, and also more abundantly than usual, and on 27th October it was noticed to be white. It was on account of the character of the urine that I was consulted.

4th November 1878.—I saw him to-day, and found pustules here and there on the body, face and limbs. After breaking they soon fade. He is a stout and ruddy boy, but speaks badly for his age, and he has a fulness on each side of the neck, about the angles of the jaws, but no abnormal hardness can be felt. He is somewhat deaf, and his tonsils are large. His tongue is clean, his bowels regular, and his appetite excellent. He takes a good deal of syrup to his porridge night and morning. He is not feverish or ill in any way that can be noticed. The urine of 4th November, similar to that passed since 27th October, was of a whitish colour, sp. gr. 1025. After standing in a temperature of 46° a white deposit was seen, and the fluid above like whey in colour; on standing in a temperature of 70° the deposit rose to the top like cream. Heat did not alter the appearance of the urine, neither did nitric acid. With Fehling's test it got of a brownish colour. The reaction is not noted, but I think it was neutral.

Under the microscope the field is crowded with small oil globules, such as are seen in milk. There are also a good many larger than pus corpuscles, with others of intermediate sizes. Besides the oil globules there are round cells, larger than pus cells, being in some cases full, in others only half full, and that towards the centre, of granular contents. Such cells have a yellowish colour. One cell I saw, with granular contents, of the shape of a soda-water bottle with the neck broken off; groups of flat crystals are also seen. When filtered the urine has the colour of whey.

On *5th November* he began to take five grains of bicarbonate of potash three times daily, and he was ordered to have no syrup or sweets.

On *6th November* the urine was not so abundant, and was not white.

On *7th November* I had a specimen of the urine. In colour it resembled the white urine after filtration. There were no oil globules in it. It was acid, of specific gravity 1024, and became reddish on boiling with Fehling's test.

On *9th November* he was making much less urine, nineteen ounces in twelve hours, which was quite clear, of specific gravity 1022, and did not get red on boiling with Fehling's test.

8th February 1879.—His mother has not again noticed his urine white, but she says he has difficulty in holding it. A specimen seen to-day is quite normal. He is now free from any eruption.

Remarks.—I had not seen such urine as this boy's before, and was much interested in the case, hoping to make a careful examination of the milk-like urine; but this appearance was lost so quickly, that I was disappointed in my hopes. Still, although fragmentary, I have thought the case worthy of record.

ARTICLE V.—*On the Therapeutic Value of Hydrocyanic Acid in arresting the Night Cough of Children after Failure with the Bromides.* By KEITH NORMAN MACDONALD, M.D. Erlang., F.R.C.P. Edin., L.R.C.P. Lond., etc.

THE peculiar and comparatively rare affection designated the *night cough of children*, was first accurately described by Professor Vogel of Dorpat,[1] and is acknowledged by our own excellent authority on the diseases of children, Dr Charles West,[2] to be a complaint of nervous origin, inasmuch as that it occurs almost exclusively at night, seldom attacks infants under one year of age, and is perhaps more frequent between the ages of three and six years than at any other period of childhood. It is a dry, irritable, and harassing cough, with little or no expectoration, dyspnœa, or any physical signs to indicate lung complication, and the fact of its occurring almost exclusively at night after a few hours' sleep, generally between the hours of 10 and 12 o'clock, when the child is "lifted" for the night, points it out as being a disease of nervous origin, or, at any rate, dependent upon some obscure cause not well understood. Dr West, in his lucid though brief description of the disease, observes—"After lasting for an hour or two it ceases, and does not recur until the next night, when it comes back with just the same characters as before, and thus continues, with occasional intervals of quiet for a night or two, even for weeks together, not apparently seriously affecting the child, though the disturbed rest at night tells somewhat on it, and it loses the look of health which it had before."

This is exactly what happens, and it only requires one to watch a case of this disease closely to be able to verify the truth of these remarks. From my own observations, however, I am inclined to believe that, though the cough is chiefly a night one, an occasional cough may also be heard during the day, especially at meal times, and, as a rule, in such cases there is more or less enlargement of the tonsils, with elongation of the uvula and a very irritable state of the glottis; and when these parts become relaxed during the first hours of sleep, a titilation is set up by reflex action through the laryngeal branches of the pneumogastric nerve, which induces those peculiar and strange paroxysms of cough.

I have, moreover, noticed that the cough may occur at any hour during the night or early morning, provided the child awakens or requires to be changed, especially when moderate doses of sedatives, such as bromide of potassinm and chloral, have been resorted to, for unless these remedies are given in full doses they simply postpone, do not cure, the paroxysms.

In order to appreciate thoroughly a case of this nature the medical attendant should sleep for a night, when possible, in an adjoining apartment, and listen for himself to the solitary thud at short intervals of this harassing and distressing cough, to understand how it happens that the child falls off in health and becomes delicate.

---

[1] *Lehrbuch der Kinderkrankheiten*, 8vo, Erlang. 1869.

[2] *Lectures on the Diseases of Infancy and Childhood*, 1874.

I am inclined, also, to think that in its causation it is closely allied to the spasmodic asthma of early life, or the *laryngite striduleuse* of the French, for, in the typical instance I am about to relate, intercurrent attacks of bronchial asthma on a minor scale occurred, though the greatest possible precautions were taken to guard against the influence of cold and stomachic derangements.

Though the therapeutic influence of hydrocyanic acid as a nervous sedative has for a long time been familiar, I am not aware of a single instance in which its efficacy has been so remarkably demonstrated as in the following case, in which it completely arrested and dissipated a cough of sixteen months' standing in forty-eight hours:—

R. M., aged 4, a bright and fair-complexioned little boy, of healthy parents, appeared to be a robust child up to September 1877, when it was noticed that, without any apparent cause, he coughed a good deal, generally at the same hour (10 o'clock) at night; and after coughing without any expectoration, except a little saliva, for an hour or more, he went over to sleep without further molestation until the following night, when the same thing was repeated, and occasionally also in the early morning. His uvula and tonsils, in the absence of chest physical signs, were at first suspected to be the cause of the cough, the former being found elongated, and the latter slightly enlarged, to which a local application was applied of nitrate of silver in stick and solution, glycerine of tannin, and tincture of iodine externally; but after a few applications he became so terrified at the necessary manipulations that it was found impossible to continue them. He soon began to show symptoms of delicacy with loss of appetite, for which he was treated with tincture of quinine, iodide of potassium, "Parrish's syrup," and other tonics, under which he improved somewhat in his general health, but there was little abatement of the night cough.

Towards the end of the month it was considered advisable to give him 5 grains of the bromide of potassium every night at bedtime, at first with marked success, so far as the cough in the early part of the night was concerned, and, on being increased to 8 grains, produced a still greater soporific effect, and, on one or two occasions during its administration, the cough disappeared for about a fortnight, but invariably recurred as before when the medicine was stopped.

Still there was no permanent improvement in his general health, though he was able to run about and appear as if there was not much the matter with him; he generally got up in the morning un-refreshed, without much appetite for breakfast, and looked seedy. A trial of the chloral hydrate in small doses in combination with the bromide of potassium also gave more or less relief, but occasioned headache, and the bromide of ammonium appeared to produce little or no effect for good.

Subsequently he became subject to attacks of bronchial asthma, the first of which occurred on the 20th of February 1878, recurring at intervals of a month, and generally lasting for two days, during which time little or no medicine could be administered, owing to irritability of stomach and vomiting of bile. This showed that these attacks were due to gastric derangements, having been invariably preceded by constipation and an overloaded stomach.

Burning ozone or nitre paper in the room and the application of warm poultices to the chest invariably gave relief, and the inhalation of two drops of nitrate of amyl also produced a marked effect. On these occasions his breathing became much accelerated, the pulse rose to 130 beats in the minute, the temperature to between 102° to 104° F., and though there was not the same amount of dyspnœa which is generally seen in the adult, a short dry cough accompanied, which was not much relieved by expectorants.

A change of air to the seaside in the month of June 1878 for some weeks was taken, but without producing the slightest benefit, the night cough recurring as before, except when taking the bromide of potassium. I may mention here, however, that change of air in cases of this nature to be effectual should be of some months' duration, and when at all possible a climate such as that of Bournemouth in Hampshire should be chosen, it being particularly applicable on account of its sandy soil and sheltered position from the north and north-east winds.

On the 27th of December 1878 he had a smart attack of bronchial asthma, and again on the 24th of January 1879 a pretty severe attack of bronchitis, with slight wheezing and an incessant dry cough, which continued for three days. As hooping-cough was in the neighbourhood at the time, I imagined, from the character of the cough, he might be in the first stage of that disease, and accordingly prescribed the following mixture:—

℞ Acidi hydrocyanici dil., ♏viij.
Syrupi simplicis, fl. ʒij.
Aquæ destillatæ, fl. ℥ij. M.
Fiat mist. Sig.—One teaspoonful every four hours.

This was on the evening of the 27th of January; the first few doses did not appear to produce much effect, so the dose was increased to a teaspoonful and a half every three hours when necessary. Now the good effects of the remedy became at once apparent, especially in the night attacks. It was particularly noticed that when a paroxysm of cough came on it ceased suddenly and unexpectedly five minutes after each dose. On the night of the 28th he got the same dose in his ipecacuanha mixture, with an interval of only two hours, and on the morning of the 29th another dose, after which the cough suddenly left him and has not since returned. The effect here was so surprising and unexpected as to be apparent to the most unobservant that the proper remedy had been "hit" upon, while it was equally gratifying to all concerned in the care and treatment of the case. That the acid was the agent which wrought such a favourable result in this instance does not admit of doubt, unless, indeed, the attack of bronchitis might have produced by counter irritation some effect upon the nerves of respiration, which is improbable.

Within a week it was quite evident that a cure had been effected, for the child showed immediate signs of improvement in an increased appetite, sound and refreshing sleep at night, and, under the influence of good nourishing food, the fluid extract of bark, with a wine-glassful of Bass's ale daily, his limbs, which had previously become extremely thin with prominent joints, filled out in a fortnight in a remarkable manner, and he now appears to be in the full enjoyment of robust health, and likely to continue so.

Even should an attack of the bronchial asthma recur again at some future time, it would not in my estimation lessen the value of the very powerful agent which wrought such a beneficial change in this case; and, unless further experience should convince me of having over-estimated its therapeutic influence, I shall continue to value it as one of our most remedial agents in the harassing night cough of children.

It is, of course, necessary to exercise caution in administering such a potent remedy as hydrocyanic acid to children, and it is perhaps always best to impress upon the friends of the patient the importance of adhering to the directions upon the bottle, that the remedy is a powerful one, but quite safe when properly administered, and when it requires to be repeated oftener than prescribed, it should be done by the medical attendant himself, and not to be given to a child under one year of age.

ARTICLE VI.—*A Case of Aphasia.* By J. CARLYLE JOHNSTONE, M.B., Assistant Physician, Fife and Kinross Asylum.

(*Read before the Medico-Psychological Association, 26th March* 1879.)

Senile Mania—Aphasia—Right-sided Epileptiform Convulsions—Transient Right Hemiplegia—General Epileptic Convulsions—Dementia—Post-mortem and Microscopic Examination.

THIS is a simple record of a case of aphasia occurring in an insane patient, which was preceded and accompanied by clinical phenomena of some interest, and in which the most striking *post-mortem* feature was extreme atrophy of the brain. No coarse localized lesion was detected, but careful microscopic investigation revealed extensive disease of the convolutions, among which Broca's convolution was in some respects the most affected.

Mrs C., aged 59, admitted into Fife and Kinross Asylum on the 30th October 1877.

Patient was sent from Edinburgh Royal Asylum, where she had been for nine months. Her previous history was scanty. There was said to be no hereditary predisposition to insanity or other nervous disease. At one time she had been slightly intemperate, but not so of late years. Symptoms of mental disturbance had appeared about four years before; cause not apparent. She became very restless, wandered about, and slept little; occasionally was violent in behaviour, and abusive in language, and her intellectual powers were much impaired.

On admission into Morningside Asylum she was found to be suffering from senile mania. She was very restless, especially at night, slept badly, and was constantly rambling about or keeping her limbs in motion. Her language was incoherent, and her memory much impaired. She had no distinct delusions. She was not a troublesome case, except when thwarted in anything, when she was subject to fits of violence and rage. It was noticed that there was some defect of articulation, and that in answering questions she misapplied certain words. She was in average bodily health and condition.

The excitement gradually passed off, her language became more coherent, and her behaviour more rational, but there was evidently considerable dementia, and this continued and increased. About six weeks after admission, articulation having become more and more affected, aphasic symptoms were noticed. They rapidly developed, and in a short time patient presented a typical case of aphasia, and she was shown as such to the clinical class. Four months after admission she had an epileptiform seizure, in which the convulsions were limited to the right side. The right side of the face was more affected than the arm and leg; the attack lasted about ten minutes; during its occurrence she seemed dazed, and it left some weakness of the affected side. This was followed by a second and a third attack similar in phenomena. General and true epileptic convulsions next appeared. They were of the usual character, and occurred sometimes every few days, but more frequently at intervals of several weeks. Towards the end of her stay she had a transient but distinct attack of right hemiplegia, which lasted for about a fortnight, and was passing off when she was discharged.

On admission into Fife and Kinross Asylum she was in feeble bodily health, and considerably demented, and the symptoms of aphasia were well marked. She was able to go about, and indeed was of a restless, roving disposition; her gait was shuffling, and she stooped in walking; there was general impairment of the motor faculties, and the right hand and arm were weaker than the left. There was evidently much mental enfeeblement. Her expression was stupid and confused. She was for the most part in a carelessly-cheerful condition; she took considerable interest in surrounding occurrences, frequently interfering with the attendants in the exercise of their duties; and when her desires were thwarted, or she was annoyed in any way, she was subject to outbursts of passion, when she bit, scratched, and kicked with great fervour. Such outbursts were usually brief, and followed by demonstrations of affection and good nature, when she patted and fondled her late adversary in the most amiable manner. When the muscles of the hand and arm were put in action a trembling palsy of the part was apparent, rendering prehensile and delicate movements awkward, fumbling, and uncertain. When the foot was raised it was affected in the same manner, shuffling and trembling. The phenomenon was displayed on both sides, and when she attempted to speak, the tongue and muscles of the jaw acted in a like rapidly-tremulous fashion, the hands being usually simultaneously affected. During a period of excitement the whole muscular system was agitated in the same uncontrollable and inco-ordinate way.

The defect of speech was most marked and typical. Patient had almost completely lost the power of expressing her thoughts by language or signs, and was thus practically "speechless." She had not lost words entirely; she could utter many; but the use of words was almost entirely gone. She could not propositionize, or only very rarely, and then the proposition was of the simplest and shortest kind, and when she attempted to talk she usually uttered a mere rapid stammer, jabber, or clatter of unintelligible sounds. She had certain "recurring utterances," such as "ay," "yes," "no," and these were sometimes used intelligently for assent or dissent, but usually they were meaningless phrases or interjections, or by their altered tone and key indicative of some emotional state. She had other "occasional utterances," in which there was sometimes meaning and sometimes not. When excited she sometimes swore and used bad language. When in an amiable mood she frequently called the attendants "my lassie," uttering the phrase in an affectionate way, but evidently with great difficulty, and she also often called them "Jeanie," without discrimination of persons. As with spoken language, so with signs; she could not indicate her meaning by pantomime. Allowing for her demented state, she seemed to have a fair understanding of what was said to her, and her expression was at times remarkably intelligent. She recognised things, and would endeavour to name them, but usually failed. She would use one word in place of another, and recognise her mistake, but could not utter the right one. If the right word were then mentioned she recognised it as such, and was frequently able to repeat it. For example, when shown a watch, she evidently recognised it, but could not name it. If asked, "Is it a watch?" she seemed to understand that that was the correct name, and uttered with intelligence the word "watch." If then shown a key, she would call it also "watch," but apparently was aware that she named it wrongly. "John" and "John Campbell" (her son's name) were two phrases that she often repeated in an intelligent and pathetic way when they were mentioned in her hearing. Her emotional language was little affected, and by it many of her wants and her states of feeling were made known. She always required to be dressed, undressed, and washed, and she had a great dislike to these operations, which she displayed by frowning, grimacing, and uttering inarticulate expressions of anger, and in a more active way by slapping, scratching, and struggling with the attendants. At other times, when angry and excited, she pursued the attendants with a very fierce and threatening expression, calling at them, "You, you, you," evidently striving unsuccessfully to utter some vituperative epithet. On the other hand, when in an amiable mood, her expression was most affectionate and conciliating, and she would caress and show all possible kindness to both officials and patients. When excited her speech was always most affected, and was then a mere jumble. Her articulatory and vocal organs were in good condition, as shown by her unimpaired faculty of mastication and swallowing, and her occasional noisy utterances.

The course of the case after admission was one of progressive mental and bodily enfeeblement, death occurring after a residence of fourteen months. Though patient was of a restlessly active disposition, there was general weakness of motility; she required to be dressed, fed, and attended to in every particular; she suffered from frequent diarrhœa, and at one time had a sudden excessive menorrhagia; and in about five months she became hopelessly bed-ridden, being unable even to sit up in bed without support. She had an epileptic seizure about once a month, the attacks being very severe, and several fits occurring in quick succession. The seizures increased in frequency, but diminished in severity. Towards the end of her life she had frequently daily convulsions, but their occurrence was sometimes scarcely noticeable, being indicated merely by loss of consciousness, altered breathing, and a fixed apathy of expression. The convulsion was often preceded by general involuntary muscular spasms or tremors. These also occurred independently, involving all the muscles, and happening sometimes daily; at times they appeared to take the place of the epileptic discharge; during the last months of her life they were less frequent and fainter. She lay in bed with her limbs completely flexed on her body, and ultimately contracture of the muscles ensued, rendering extension impossible. Excoriations and bed-sores appeared on the prominent bone processes, and the extremities became cold and discoloured. Up to the day before death her appetite never failed. The trembling and fumbling of the hands when they were moved voluntarily was all along remarked, and was observed also when she tried to speak. The dementia and aphasia gradually increased. Four months after admission she failed to recognise her son. She soon lost the power of repeating names of things when she was told the words, and then the meaning of things also left her. She seemed to have no notion of the use or significance of any articles shown her, and she endeavoured to transfer everything to her mouth. When in a quiescent state, her expression was fixed and apathetic. When she was hungry or suffered pain, she uttered discordant cries, and her face was expressive of discomfort. When in a comfortable and pleased state, she smiled or laughed, and had a wonderfully bright and cheerful expression. Her vocabulary became more and more scanty, and her utterances were almost limited to "Ay," "No," and "John." "John" was the only word that seemed to excite in her an intelligent idea. Almost until her end, when that name was mentioned to her, her face assumed an interested and usually pathetic expression. A few days before her death, on being asked if she had had her breakfast, she at once replied "No, no breakfast," the only rational, though untruthful, proposition she had uttered for some months.

Post-mortem Examination Twenty-seven Hours after Death.—Body much emaciated. Limbs rigidly contracted.

Heart.—A large milk spot on anterior surface of right ventricle. Slight atheroma of aorta and of mitral and aortic valves.

Lungs.—Left slightly congested and œdematous. Caseous deposit about size of a hazel-nut in apex of right.

Liver, Spleen, and *Kidneys,* healthy. Vessels in fundus of *Uterus* distended with blood.

Spinal Cord.—Vertebral laminæ brittle and easily divided. Slight pinkness of dura mater in lower lumbar region; membranes otherwise healthy. An abnormally large quantity of clear cerebrospinal fluid in subarachnoid space. There was a slight degree of softening in upper part of dorsal region, and low down in lumbar region a small patch of advanced softening was seen. The other parts of the cord presented a normal appearance on section.

Brain.—Skullcap symmetrical; walls thin, and diploe greatly obliterated. Dura mater not very firmly attached to calvarium; somewhat thickened; adherent along sides of superior longitudinal sinus to underlying membranes by Pacchionian bodies and connective filaments. Arachnoid and pia mater opaque, milky, and thickened, particularly along the lines of the vessels, and overlying a large quantity of clear serous fluid. There were three distinct arachnoid cysts, each about the size of a bean, situated one over the centre of the left frontal lobe, another over the middle of the anterior part of the left parietal lobe, and the third over the upper and anterior part of the right occipital lobe. Pia mater stripped readily from subjacent cortical matter. There was marked general atrophy of the convolutions, and the sulci were wide and filled with fluid. The wasting involved the whole superior aspect of the hemispheres, both sides being equally affected. The greatest loss of bulk was in the frontal lobes and anterior portions of the parietals. There were some patches of atheroma on the basilar artery, and the cerebral arteries at their commencement were also slightly atheromatous. The Sylvian and other cerebral arteries were carefully dissected out, but no embolism or other lesion could be detected. The cerebellum, pons, medulla, and fourth ventricle, presented healthy appearances. The lateral ventricles were somewhat distended with serous fluid. On section of the brain, the gray matter was seen to be generally diminished in thickness and pale in colour, and the white matter had a somewhat dusky and mottled-pinkish hue. The perivascular canals were dilated, and the vessels dragged, and in both the cortical and medullary substance hyperæmic vessels appeared in bloody points and streaks. The optic thalami and corpora striata presented no appearance of disease. No embolus, apoplexy, or other gross lesion was discovered in any part of the brain. The frontal convolutions were affected similarly on both sides, and their appearance was not different from that of the convolutions in other regions. The whole encephalon weighed 34 ounces.

Microscopic Examination of Recent Specimens.—The vessels of the pia mater were found to be congested and somewhat irregular in contour, and there was thickening of the coats. The vessels from the brain substance were also abnormally thickened, and were covered with copious deposits of hæmatoidin crystals. Specimens of the cells from the various convolutions were examined by aid of magenta dye. In most cases there was well-marked granular degeneration, which involved the base of some cells and the entire extranuclear substance of others.

Examination of Prepared Sections. — Sections hardened in chromic acid and stained by carmine were taken from the following regions of the brain and cord, the two hemispheres being examined separately for the purpose of comparison: the superior, middle, and inferior frontal, ascending frontal, ascending parietal, and occipital convolutions, and the islands of Reil; the corpora striata, optic thalami, cerebellum, medulla, and portions from the cervical, dorsal, and lumbar regions of the cord.

I. ENCEPHALON.

Convolutions. — The morbid appearances observed in the *left lower frontal* or *Broca's* convolution may be taken as typical of those seen elsewhere. The *pia mater* was greatly thickened, there was a considerable deposit of hæmatoidin granules on the vessels, and their coats were much hypertrophied. The *vessels from the brain substance* were markedly diseased. The perivascular canals were widely and irregularly dilated, and within them the vessels pursued a serpentine course, being in most instances extremely tortuous or kinked. Their walls were, with few exceptions, much thickened, the hypertrophy being in some cases extreme; the middle coat was the most affected, and the disease was most marked in the medium and small-sized vessels. Scattered over the outer coat was a copious deposit of hæmatoidin, with in places some amorphous matter. Some of the less thickened vessels were engorged with blood and nearly filled the enlarged canals, while others were collapsed and crumpled. The surrounding tissue was indurated, and many vacant round and oval vessel spaces were seen in the section. The *cells* were without exception much diseased and considerably atrophied, presenting various degrees of fuscous or granular degeneration. In some sections the outline and processes were fairly well defined and normal in appearance, and in those the morbid change was limited to the base or outer portion of the cell, the nucleus remaining unaffected, and the atrophy being slight. In most of the specimens the disease was much more advanced, and involved the whole cell substance; the proper contour was altogether lost, and the poles truncated; the cell appeared as a shrivelled, ill-defined, dark-brownish body, in which no nucleus could be made out, and around it was a clear space of considerable extent, the atrophy being extreme. Where the cells were most affected the general appearance of the section was markedly unhealthy, the dwindling of the nerve elements being accompanied by an unnatural prominence of the neuroglia and its constituents. Thinly scattered throughout the gray matter were observed little pearly or luminous spots of *miliary sclerosis* in a very early stage. These were for the most part unilocular, round or oval in shape, each possessing a nucleus, and surrounded by a slight induration of the neighbouring tissue. They were evidently of but recent growth, judging from their generally small dimensions and faintly defined outlines, and in their distribution they were almost limited to the layers of the cortex, only a very few being detected in the white matter. The only spot observed of any size was one which completely surrounded without occluding a small vessel. In the white matter considerable proliferation of the *nuclei of the neuroglia* was seen. A few small *amyloid bodies* were noticed underneath the *pia mater* and in both gray and white matter, in some cases following the lines of the vessels.

The above-described morbid changes were also detected in all the other convolutions examined, but in no case were they more marked than in Broca's convolution, and in some instances they were considerably less so. *In no other region was there seen such an extreme hypertrophy of the vessel walls or so grave a degeneration and atrophy of the cells.*

The *right lower frontal* convolution, with the above exceptions, was seen to be affected in much the same way as the corresponding convolution on the left side. The miliary spots were equally well marked, and in some sections there were groups of pretty abundant amyloid bodies in the outer layer of the gray matter, and bound down by the pia mater. Similar in most respects to this convolution were the *first* and *second frontal* and the *island of Reil* of both hemispheres. The general appearance of the sections from the islands of Reil approached most nearly to that observed in Broca's convolution, but the cells and vessels were not quite so gravely affected. In the left island of Reil amyloid bodies were found in greater numbers than in any other convolution, being distributed chiefly in groups under the pia mater, but also scattered sparsely through both white and gray matter, and in some cases accumulated round the vessels. In the first and second frontal the miliary spots were not confined entirely to the gray matter, a less number being seen in the white.

The right and left *ascending frontal* and *ascending parietal* convolutions appeared to be considerably less diseased than those already described, the various affections of the vessels, cells, neuroglia, etc., being evidently less advanced, and the ascending parietals were somewhat healthier than the ascending frontals. Of the cells the larger were the least affected, some of those in the parietal region being fairly normal. Considerable numbers of amyloid bodies were seen. The miliary spots were not quite so distinct or so numerous as in Broca's convolution, and in the ascending frontal they were distributed through the white as well as the gray substance, though, as elsewhere, more frequent and larger in the cortex. In the *occipital* convolutions on both sides the same lesions were found as in the anterior parts of the frontal lobes, and the general appearance was the same, the vessels and cells being only less diseased than those in Broca's convolution. The miliary spots were as distinct, large, and numerous as anywhere else, and were almost limited to the gray matter. Numerous amyloid bodies were seen under the pia mater and in the outer gray layers, fewer being observed on the right side.

The *corpora striata* and *optic thalami* were considerably diseased, but no coarse lesion was detected, nor was there any striking difference between the two sides. The vessels lay in dilated canals, and were distended with blood or collapsed and crumpled, there was some slight thickening of the walls, and in places deposits of hæmatoidin, this last being best marked in the right striate body. The cells were all very much diseased, presenting a granular, fuscous, and wasted appearance, with dull outlines and blunted poles. Small, scanty, and mostly ill-defined spots of miliary sclerosis were scattered over the section, none being so well marked as in the convolutions, and in some sections considerable numbers of amyloid bodies were found, chiefly beneath the ventricular membrane.

The *cerebellum* was pretty normal in appearance. There were a few small amyloid bodies under the pia mater, but otherwise the cortical matter and the large cells of Purkinje were quite healthy. The vessels of the white matter were in many places distended with blood.

Medulla.—The pia mater was much thickened and the walls of its vessels hypertrophied. The sections generally contained an excess of connective tissue. The perivascular canals were dilated, and there was some thickening of the vessel walls. The cells were markedly diseased and atrophied, lying in clear spaces. Those in the floor of the fourth ventricle were much the worst, and were extremely fuscous and wasted; in most of them the normal appearance was wholly lost, in many cases the whole cell or a portion of it being represented by a mere lump of brownish granular matter. The cells of the olivary nucleus were considerably less morbid, but were all more or less affected with granular degeneration. In various parts of the section what appeared to be a tendency to commencing miliary sclerosis was seen. There were numerous amyloid bodies beneath the pia mater and a few scattered over the section; in the outer part of the floor of the fourth ventricle and in the restiform region on each side they were accumulated in greater numbers.

II. SPINAL CORD.

The pia mater was very thick, and the walls of the vessels much hypertrophied, the chief increase being in the fibrous outer tunic. The cord was considerably sclerosed throughout, and the appearance of the sections was markedly unhealthy. The sclerosis was not limited to any particular region, and was distributed irregularly through the section, the posterior aspect being perhaps slightly the most affected. There was a general increase of the connective elements at the expense of the nervous, the fibrous septa were multiplied and abnormally thick, and there were numerous little patches or clumps of connective tissue, chiefly round the smaller vessels, from which fibrous networks radiated in all directions. There was some thickening of the middle coat, and fibrous tissue was heaped round the outer coat of the vessels; in the lumbar region they were mostly distended with blood and lay in dilated canals. The cells were much atrophied and fuscous, but none so diseased as those in the medulla. A few very faint spots of miliary sclerosis were seen. Amyloid bodies were found in great numbers in all parts of the cord, being most numerous in the lumbar and dorsal regions. They were best seen at the periphery and accumulated round the septa and vessels, and they were most thickly scattered in the posterior columns and about the origins of the posterior nerve roots.

ARTICLE VII.—*Cases Illustrating the Management of Tedious Labours.* By Dr G. HAMILTON, Falkirk.

IN two late numbers of the *London Obstetrical Journal* I have given cases illustrating the above subject, and perhaps the two following ones may still be thought worth recording. Before narrating them, I may say that I notice from the newspapers that, among others, the birth statistics of France for 1877 have just been published, giving births, exclusive of still-births, 944,500; still-births, 44,100—total, 988,600, or about one still-birth in every 22½ cases. No doubt such statistics give but a rough approximation to the true loss of fœtal life at birth, as we do not know how many of these were non-viable. Still, the great numbers included in the still-born list, in a single country, show the vast importance of this branch of medicine, and the necessity for the various processes connected with it being well understood by those who practise it.

CASE I.—On the morning of the 8th March I had a message from a brother practitioner, a short distance in the country, asking me to come to his assistance in a labour case, and to bring along with me my craniotomy instruments. On arriving I found that the patient, who had previously had three living children without any particular difficulty, had been in labour from 8 P.M. the previous night, and that the gentleman had been with her the greater part of that time. He had tried to deliver with the forceps, but had been unable to do so. On examination I found the os uteri well dilated, but very high up, and a large caput succedaneum presenting. The pains, I was told, had been only moderately good, and they still continued indifferently strong.

My first endeavour was to get the uterus over the head, and for this purpose I introduced, as I usually do, my two forefingers anteriorly, pushing that portion of the os firmly upwards. This, however, I found was not sufficient for the object in view, and I therefore introduced my whole hand into the vagina, so as to push up the uterus posteriorly. In doing this I found that the promontory of the sacrum projected a good deal inwards, and that the lip of the uterus was firmly caught between it and the head. After a little while I was able so far to remove this obstacle that the head entered more into the pelvis, but yet remained within the uterus. Though still high up, I now endeavoured to get hold of the head with the forceps, and succeeded without any great difficulty in doing so. As is usual with me when the head is at the brim, I introduced the forceps antero-posteriorly, and let the blades lay hold of the head wherever they might catch, which I found placed them in the oblique diameter of the pelvis. In this way I was able to advance the head a little, though the hold I had got was not quite what could be wished for. Taking off the instrument I again pushed up the uterus with my hand anteriorly and posteriorly, and then reapplied the forceps, still within the uterus, however. This time my hold was firmer, and the head was advanced a little further. Again removing the instrument, I inserted my hand, and succeeded in pushing the uterus quite over the head. Passing the finger up anteriorly I could now, with a little exertion, just feel the tip of an ear higher up than, and in a line with, the symphysis pubis. Immediately, the forceps was reapplied exactly antero-posteriorly, and a firm hold of the head was got. Traction alone had to be used; the head rotated with a jerk, and in a few minutes delivery was effected, but without the slightest indication of life in the child, or of pulsation in the cord, which was found to be twisted tightly round the neck. The woman had thus been in labour about fifteen and a half hours, and I had been with her during the last hour and a half.

Under the circumstances mentioned, any attempt to save the child's life seemed all but desperate. Nevertheless, I tried, on the bed, the effect of a few inflations of the lungs, before cutting the cord, and no sign of life appearing, I quickly removed the child to a table, where I could practise my plan of artificial respiration with more ease. After continuing this for some time, I thought I could perceive a very slight pulsation in the region of the heart, though this was doubted by my medical brother and the attendant. With perseverance the pulsations at last became plain, and by-and-by slight inspiratory movements took place. The artifical respiration, however, had to be continued for an hour before the child could breathe alone. It lived for four and a half hours, when the respiratory powers gradually failed. As is my constant practice in such cases, I carried on the artificial respiration with my mouth applied to that of the child, the nares being closed with the forefinger and thumb of the right hand, while the left hand was placed under the neck and back of the head, to keep them steady and in the proper position for the free admission of air into the chest. Generally the air can he heard and felt passing freely into the bronchi, but occasionally a slight stoppage to it occurs, from the accumulation of mucus in the windpipe, or from spasmodic action of the glottis. I noticed that the latter became in this case very strong as the sensibility of the child increased. For the former I always rapidly introduce my forefinger down to the glottis, and clean off the mucus as well as I can. For effectually expelling the air, the chest should be firmly grasped as low as possible, nearly over the ensiform cartilage. A child recovering from asphyxia makes spasmodic inspirations at more or less remote intervals, but, between these, slighter rapid respiratory movements, chiefly diaphragmatic, may be seen going on, and I have thought it well to try to imitate these with my finger on the sternum during the intervals of artificial inflations by the mouth. Before inflating, also, I always take a full breath, so as to let the child get the benefit of as much pure air as possible. To rouse the sensibility, I dash whisky over the chest while compressing it; and, if the case be protracted, I try to keep the child from becoming lethargic by smartly slapping the buttocks, dipping the finger in sugar-water and placing it in the child's mouth to encourage the art of sucking, etc. [1]

The practical conclusions I come to from a consideration of this case are—(1st) that the child lost its life from being long detained in the passages; and (2d) that the causes of this detention were the uterus being caught on the promontory of the sacrum, and the short cord being twisted tightly round the child's neck. The latter is not under our command, but the former is, and it seems to me not a little strange that a practice so excellent as that of pushing the uterus over the head (determinedly if necessary), which was taught and enforced fifty years since by practitioners so able as the late Professors Hamilton and Burns, should still, it would appear from obstetrical works, require to be explained and supported. For forty-five years I have uniformly, in the whole of my practice, followed this plan of management, in the second stage of labour,[2] not only, as far as I have been able to observe, without the slightest injury following, but with the decided effect of—(1st) stimulating the uterus, and increasing the efficiency of the pains; and (2d) of enabling me, where such has been deemed necessary, to apply the forceps easily and safely. In fact, my conviction is that the forceps cannot be used satisfactorily if this point be neglected; and so also must the rule, which has guided me, of not allowing the second stage of labour to much exceed two hours, be constantly violated, when it is not attended to. In the present instance this was the really great obstacle to be overcome; for, once the uterus had been got over the head, the rest was finished in a few minutes. It must be evident, therefore, that, could this have been effected, say, two hours sooner, the child would have been saved. Time, in the second stage of labour, is an all important element. The more I have seen, the more firmly have I become convinced, that it is impossible to neglect it and practise obstetrics successfully. In such protracted cases, and especially where it has been necessary to introduce the forceps *within* the uterus, I am always anxious about the recovery of the mother. Here she did well for two days, but on the third she had a smart attack of peritonitis, from which, however, under active treatment, she recovered.

---

[1] See further, on this subject, paper by Dr Hamilton, on "Asphyxia Neonatorum," in *Edin. Med. Jour.*, May, 1855.

[2] Professor Stephenson, of Aberdeen, in a paper on this subject in the *London Obstetrical Journal* for August 1878, says, "There are, I believe, few practitioners of experience who do not employ at times some form of digital dilatation in the first stage of labour." This is not my practice. I interfere with the first stage as little as I possibly can.

CASE II.—The second case proved a very simple one, and yet I have sometimes, especially in primiparæ, found the same position of the head very troublesome. It was the patient's second confinement, and the labour commenced about 5 A.M. I saw her shortly after 11 in the forenoon, and found the head well advanced, and the os uteri fully dilated. With the assistance of a few pains, I, without any difficulty, got the uterus over the head, and then found an ear to the left of the symphysis, with the face to the right side, the head being thus in my third position[1]. The pains continued regular and strong for about three-quarters of an hour, but the head did not advance, and the ear, instead of rotating towards the symphysis, was going in the opposite direction. The patient began to complain of this labour being more severe even than her first one, so I said, "Very well, then, I'll finish it." As usual, I applied the first blade of the forceps over the ear, and the other easily took its place. Traction alone was used, and I let the head take its own course. The ear continued to rotate to the left, and the face came out under the pubes. The time occupied, from beginning to introduce the forceps to delivery of the child, was under three minutes. The only remarks which this case suggests to me are—(1st) that the best practice here was not to use compulsion, but to allow the head to take its own course; and (2d) that this is best done with a strong straight forceps. When I began applying traction I did not know what the course taken might be. The ear might rotate to the right, or it might go to the left, or it might not rotate at all, as often happens to me; but the straight instrument I use was equally applicable to all these, which can hardly, I should think, be said of any double curved forceps.

ARTICLE VIII.—*On the Adenoid Tumours of the Naso-Pharynx, and their Influence on the Hearing, Breathing, and Phonation, and on their Treatment.* By Dr LŒWENBERG, Paris. Abridged and translated, by permission of the Author, by JAMES PATTERSON CASSELLS, M.D., M.R.C.S. Lond., Fellow of the Faculty of Physicians and Surgeons, Surgeon to the Glasgow Dispensary for the Diseases of the Ear, Aural-Surgeon to the Glasgow Royal Infirmary, and Lecturer on Aural-Surgery in the Royal Infirmary School of Medicine, Glasgow.

(*Continued from page* 913.)

ANATOMY.

Histology.—The ultimate structure of these naso-pharyngeal tumours resembles that of the mucous follicles, indeed, seems to be identical with it; but the tissue composing the tumours is more richly supplied with blood than the last-named structure.

---

[1] See *Brit. and For. Med. Chir. Rev.* for January 1872, p. 171.

To a tissue similarly constituted in many points, the names "Adénoide" (His), and "Cytogène" (Kölliker), have been given, hence the reason for applying the name "adenoid" to those glandular-like growths in the naso-pharyngeal cavity.

The adenoid tumours, which we have extirpated, have been submitted by us to a searching microscopic examination, following the method which we used in our researches on the cochlea (see *Gaz. Hebd.*, 1864, pp. 691–697; *Journal de l'anatomie et de la physiologie*, 1866, pp. 605–651; and 1868, pp. 626–657; and our inaugural *Thesis*, Paris, 1866). All these tumours were found to be covered with stratified epithelium, of which the superficial cells were cylindrical and generally vibratile. The mass of these tumours was also composed of adenoid gland-like tissue, of which the trabeculæ only became visible after the removal of the numerous lymphatic cells which filled the meshes.[1]

The most frequent seat or point of attachment of these tumours is at the vault of the naso-pharynx, or at the upper part of its posterior wall, because the adenoid tissue, rich in follicles, is abundantly distributed over the normal mucous membrane of this part of the cavity; but it is also freely distributed on other parts, as in Rosenmüller's fossa, and over the superior portion of the orifice of the Eustachian tube; indeed, from the one tube to the other, round the vault of the pharynx, this tissue forms a cushion, variable in form, and having a thickness of about 8 mm. So distinctly marked is this mass of tissue in the vault of the pharynx, that it has been named the "Tonsilla pharyngea."[2]

It is in those parts of the naso-pharynx, which are so abundantly furnished with the adenoid follicular tissue, that the so-called adenoid tumours are more commonly seen. From these facts it seems not at all improbable that many of these tumours which have their attachment to the vault of the pharynx may be only an enlarged but healthy pharyngeal tonsil; indeed, it seems difficult in such cases to decide as to the nature of the tumour, whether it be a hyperplasis only, or a neo-plasis in structure; of course, irrespective of the character of the growth, if its presence in the naso-pharynx proves to be obstructive to the free use of the nasal passages either in respiration or phonation, or in respect to the hearing, then its removal would be justified.

The tumours that form in front of the cartilaginous portion of the Eustachian tube, and on the lateral wall of the naso-pharynx, near to this canal, are composed of adenoid and connective tissue, in varying proportions. As here, on the lateral wall of the naso-pharynx in a normal state of the tissue, there is no adenoid tissue, we have in this instance a veritable adenoid tumour, which is a true neo-plasm, and not merely a hyperplasis of normal structures.

---

[1] The drawing which is found in the excellent book by Cornil and Ranvier (*Manuel d'histologie pathologique*, pp. 13-252) gives a good idea of the structure of these tumours.

[2] By Luschka in Max Schultz's *Arch. f. Micros. Anatom.* 1868.

Classification.—These tumours of the naso-pharynx are classed according to the manner in which they are attached to the walls of that cavity.

There are two groups, as follows:—

1*st*, Tumours that are sessile or flat; and, 2*d*, those that are pedunculated.

As to the dimensions of these tumours, they are to be met with so large as to fill completely the naso-pharynx; generally, however, there are many in that cavity at the same time, and sometimes only groups of vegetations, which are, however, true adenoid growths.

In our work published in 1865 we first established the close affinity, in an anatomo-pathological sense, which exists between the adenoid tumours of the naso-pharynx and the granulations that are so frequently seen on the posterior wall of the pharynx itself. Our opinion on this point was formed only after the observation of many patients in whom these two morbid states coexisted, and even in cases in which there were these growths in the intermediate stages between these two pathological conditions. Our opinion as to the close analogy existing between the structures of these two pathological states has been combated by some physiologists,[1] but they have been corroborated by others, among them by Wagner.[2]

Aetiology.—Neither *climate* nor *social position* seem to give rise to these adenoid tumours, for they are found in the persons of those who live in climates, and who move in social states, widely diverse from each other. In order to gain a knowledge of the manner in which these tumours arise, it is necessary to study their origin and the conditions that specially favour their development in the infant.

The fact that most young children who suffer from these vegetations belong to the *lympathic* temperament, and that a close affinity exists between adenoid tissues and the lymphatic glands in structure (the engorgement of which latter is the characteristic of the above diathesis), makes it probable that there is indeed a veritable bond of union between them in a pathological sense.

In a different way *heredity* seems to play a marked *rôle* in the origin of the malady. We have observed numerous cases in which the facts that proved the hereditary transmissions of these growths were as startling as they were absolute. Thus, a family, moving in the highest society, and enjoying all the comforts and amenities that belong to such a position, came under our care. We found the mother at the age of 38 years to be afflicted with large tumours in the naso-pharynx, from which she had suffered in her childhood.

---

[1] Stifft in *Canstatt Jahresbericht*, 1863.

[2] In *Arch. der Heilkunde*, 1865, B. VI.

Her tonsils were normal. Her husband was quite free from any throat affection. All the children of this marriage, four in number, their ages ranging from six and a half years to eight months, were the subjects of developed adenoid growths in the naso-pharynx, which affected their respiration and phonation in a painful manner.

Symptoms.—When these tumours have attained to a size so great as to impede or altogether to obstruct nasal respiration, the most striking and characteristic symptom that presents itself is the permanently open state of the mouth of the patient. This, and the peculiar respiration, phonation, and hearing, clearly point out the nature of the affection.

We now desire to study the symptoms of this affection of the naso-pharynx while it is yet less advanced, and the symptoms therefore are less marked.

Symptoms caused by Adenoid Tumours at their Commencement.—These are a naso-pharyngeal catarrh from the outset of the affection that is characterized by an abundant secretion in the nasal passages and naso-pharynx. Masses also of tenacious mucus of an ash-gray colour, and sometimes tinged with blood, come away in abundance by the nose, or are expectorated by the mouth.

The symptoms above described generally indicate the presence of these tumours in an early stage of their existence, but not with certainty; this latter can only be had by the examination of the naso-pharynx with the *rhinoscope* and by the *finger*. In this way the examination of this space leads to the discovery of the characteristic vegetations, and of the source of the abundant secretion which is met with in this stage of the disease, and which is seen to be in the pharyngeal tonsil, whence comes a constant dropping of a mucous-like fluid.

2d, Symptoms of these Tumours in an Advanced Stage of the Affection.—The symptoms which indicate the presence of these tumours in their advanced stages are determined in their character by the seat of the vegetations or growths. Accordingly as they obstruct the nasal passages, or the orifice of the Eustachian tube, will there be marked changes in the respiration or phonation, or in the hearing. When the tumours completely fill the naso-pharynx then all these symptoms are present at the same time, and intensified. We will examine these in detail.

(A.) Suppression of the Nasal Respiration and its Consequences.—Through the complete closure of the posterior nares by these growths, nasal respiration is effectually obstructed, and it becomes necessary to breathe by the mouth. The habit of mouth-breathing thus established, a series of consequences flow from it to which attention is now directed.[1]

---

[1] See a paper by the translator in this *Journal* in February 1877, entitled, "Shut your Mouth and Save your Life," being remarks on mouth-breathing, etc.

These changes are as follows:—

(*a.*) *Physiognomy.*—The expression of the patient's face is one of marked stupidity, this being caused by the imperfectly developed nose and the gaping mouth and retracted lips, which usually expose a row of decayed teeth.

(*b.*) *Action on the Pharynx.*—The air inspired through the nasal passage, as is well known, is warmed, moistened, and filtered of its impurities. Air inspired by the mouth alone and always not only chills and dries the tissues with which it comes in contact, but it at once sets up a chronic inflammation of the mucous membrane, over which it passes on its way to the lungs. So decided is the irritation thus caused, that some authors are of opinion that this habit of breathing through the mouth is the cause of the granulo-adenoid pharyngitis so often seen in mouth-breathers; that this conclusion is wrong is shown by the fact, that in patients who breathe perfectly through the nose this granular condition of the posterior wall of the pharynx is not unfrequently seen. Doubtless, however, mouth-breathing cannot fail to aggravate an existing pharyngitis granulosa.

(*c.*) *Influence upon the Nasal Passage.*—According to a well-known physiological law, that the disuse of any organ begets in it waste and decay, and in cases of mouth-breathing, due to the presence of these adenoid growths in the naso-pharynx, we find that certain changes of a marked kind take place in the nose after nasal respiration has become suppressed. Thus, in respect to its general form, the nose is thin looking at the bridge, and the alæ nasi are pinched; while in the schneiderian membrane lining the nasal passages and fossæ there is a total loss of true structure—this membrane becoming dropsical, and its follicles, as well as their contents, taking on the colloid metamorphosis.

In a number of cases, especially when adenoid vegetations are present in the pharynx, there is a chronic *rhinitis* with augmentation of the ordinary secretion. In such circumstances the whole interior lining membrane of the nasal passages is tumified, and that part of it covering the inferior turbinated bones is sometimes so greatly swollen as to present to the eye the appearance of a tumour when the nasal passages are inspected either anteriorly or posteriorly by the rhinoscope. When this is the case, the masses of tenacious mucus which lodge in these passages escape with difficulty.

(*d.*) *Influence on the Sense of Smell and Taste.*—It is evident that the conditions already referred to, viz., the degeneration or thickening of the lining membrane of the nasal passages, and their occlusion by the tumours in the naso-pharynx, concur to weaken or even to abolish the sense of smell, and even to lessen the acuteness of the sense of taste; for in this latter relation it is a well-established fact, that the sense of taste is diminished if not completely suspended during the act of deglutition when the nose is closed.

(*e.*) *Influence on the Purity of the Air Inspired.*—During its course in and through the turnings and windings of the nasal passages, the air is sifted and cleared of the impurities which it so often contains, such as dust, smoke, etc., the greater part of which is arrested in the mucus that coats the interior of these passages. We have only to recall to mind the labours of Pasteur and those of Tyndall, which have taught us how much dust is contained in the air which we breathe. The number of organic spores alone contained in the volume of air which one breathes in the space of ten hours has been estimated approximately (by Smith, Davis, and Niemeyer) at thirty-seven millions and a half. Besides this, however, as we have already seen, that air inspired by the nostril is warmed and moistened by its contact with the walls of the nasal cavity, in a considerable degree (Gréhant), becoming in this way better fitted to enter the lungs.

In this regard, therefore, we have, in cases of adenoid growths in which nasal respiration is abolished, to combat with all the evils that follow the respiration of cold, dry, and unfiltered, and therefore comparatively impure air.

(*To be continued.*)

ARTICLE IX.—*Suspension as an Aid to Surgical Demonstrations and Practice.* By THOMAS ANNANDALE, F.R.C.S.E., Professor of Clinical Surgery in the University of Edinburgh.

(*Read before the Medico-Chirurgical Society of Edinburgh, 4th March* 1879.)

THE employment of suspension in the practice of surgery is no new suggestion. The older surgeons appear to have used it in certain cases, and in more recent times suspension of a limb or organ has occasionally been adopted in order to facilitate an amputation or the removal of a diseased structure.

My object in this paper is to advocate a more general use of this method as an aid to practical surgery, especially in hospital work, and to illustrate the value of it by relating my experience of its application and explaining the apparatus by means of which, I think, it may be most conveniently carried out.

For convenience I will consider suspension (1), as an aid in demonstrating more distinctly points in connexion with the symptoms and diagnosis of certain surgical affections; (2), as a means of assistance in the performance of various operations; (3), the apparatus suggested and used for its simple and successful employment.

Under the *first* head may be included the now well-recognised importance of suspension in cases of angular and lateral curvature of the spine. The value of this means in correctly determining the different conditions of the spine, and in carrying out efficient treatment of them, has been so energetically introduced by the labours of my friend Professor Sayre, of New York, and so thoroughly and satisfactorily tested by the surgeons of this and other countries, that it is unnecessary for me to further refer to it. There are, however, other cases in which suspension is useful in demonstrating disease, more particularly to classes of students. Take, for instance, the case of a swelling, tumour, or other morbid condition situated on the posterior or even the lateral aspects of the limbs. In order to show and examine the particular condition in such a case thoroughly, I find that the best plan is to suspend the limb from the hand or foot, and so bring into good view the affected part. Similar conditions in the axilla may exist, and therefore be suitable for this kind of demonstration. It may be said that cases such as have been referred to can be quite as well demonstrated if an assistant elevates or holds up the limb in a convenient position; but, if the two methods are compared practically, I feel very confident that the suspension plan will be found to be the most satisfactory as regards both the comfort of the patient and the success of the demonstration. Other applications of this suspension will, I believe, prove to be useful under this first head, but I would only mention one of these, and that is the gradual raising of the pelvis by suspending the lower limbs so as to alter the position or relationship of its contents or of morbid conditions connected with them. In this way, for example, the detection of a stone in the bladder in cases of special enlargements of the prostate might be made more certain.

Under the *second* head I would remark on three advantages of suspension, more particularly in amputation of the limbs and the removal of tumours:—1. As the most simple means of assisting in emptying the vessels of the part to be removed of their contained blood. 2. As the most convenient method of keeping the affected part in position and allowing it at the same time to be freely manipulated, if required, without the aid of unnecessary assistants, who might obscure the view of the operation or interfere with its ready performance. 3. As an assistance in carrying out the Listerian antiseptic principles. The first case in which I employed suspension was that of a woman, æt. 44, who was admitted into my Wards in April 1878 in order to have a large adenoid tumour removed from her right groin. The tumour, which weighed 4½ lbs. after removal, had a broad base, and was situated immediately over the femoral vessels. Considerable experience in the removal of large growths from important regions had taught me the difficulty of efficiently handling such tumours, especially in connexion with their deeper attachments during the different stages of the operation, and I therefore determined to employ suspension in this case. This was effected by first exposing the superficial aspect of the tumour, and then transfixing its centre with a fine metal rod, to which was attached a piece of strong twine, and this again was passed over a pulley connected to the projecting bar of an upright stand. The stand was placed so that the projecting bar was at a convenient height and immediately over the position of the tumour, and by gently drawing upon the twine passed over the pulley an assistant steadied, supported, and gradually raised the growth as desired, so that the deep dissection proceeded without the contact of any other hands than those of the operator.

I was so much pleased with the application of the suspension in this case that I at once had constructed a more efficient apparatus, which has since constantly been in use in my hospital practice. A few days ago I removed on the same principle a large adenoid tumour weighing 6¼ lbs. from the breast of a woman. With the aid of suspension and a modification in the application of the elastic tourniquet, this tumour was removed with a loss of only one and a half ounces of blood. The first case of amputation in which the suspension was employed was that of a girl, æt. 15, who was admitted in October last on account of a large malignant tumour growing from the femur. There was just room to amputate through the upper third of the thigh, and I found great advantage in using this method as a means of assistance under all the three divisions of this head. The limb was suspended at a right angle to the pelvis so as to empty it of its blood, more thoroughly expose the parts connected with the operation, and permit of an uninterrupted and copious spray to fall upon the wound and surrounding parts. When the limb was thus suspended the only difficulty met with was in sawing the bone, as the saw became locked, and therefore, if this position of the limb is at any time employed, it will be found better to lower the limb when the saw is used. Since this operation I have used the method in many cases of amputation of the thigh, and by applying the suspension, when possible, above the site of the operation, it will be found that the limb is under the control of the operator, and can be easily rotated outwards or inwards, or moved in any direction without the aid of an assistant. In the operations performed with the aid of suspension the area of the operating theatre is kept perfectly clear, and with the exception of an assistant, who sits upon a low stool and directs the spray, there is no one to obscure the view of the proceedings or interfere with the spray playing freely on the wounds and surrounding parts. As a matter of practice it will be found that in some amputations the limb is most conveniently suspended by its extremity, while in others the suspension is most efficiently applied above the seat of the operation.

I have also used this same plan of suspension in a case of strangulated hernia, both lower limbs, together with the pelvis, being gradually drawn up in order to promote reduction by allowing the contents of the abdomen to gravitate towards the upper part of this cavity, and so to exercise internal traction upon the structures contained in the hernial sac.

By means of the apparatus a patient can also be successfully, gradually, and completely inverted, as, for instance, is sometimes required in the case of a foreign body lodged in the air-passages. One of my colleagues lately employed it in a case of this kind, and thoroughly proved its efficiency in thus suspending a patient by the lower limbs. In this case the straps of the apparatus were applied round the lower ends of the thighs immediately above the knee-joint.

Under the *third* head I now describe the apparatus. It consists of two wooden upright stands 8 feet 3 inches high, and a movable cross-beam connecting their upper ends so as to form a scaffold 8 feet 3 inches high and 4 feet wide. Attached to the cross-beam, and hanging about 2 inches below it, is a strong iron rod on which one, two, or more steel hooks with pulleys connected to them can be hung, according to the nature of the part to be suspended. Lengths of strong thin rope, having a spring steel clip fastened to one end, and several padded straps of varying width and length, to each of which a strong steel ring is attached, complete the apparatus. By these means one or both limbs, or any other part of the body can be gradually suspended by one or more assistants, who stand behind or at the side of the scaffold. If it is desired to fix the part in any special position, the end of the rope can be secured round a pin fixed to the upright supports.

This scaffold has, I think, the advantage over Professor Sayre's tripod, that a patient, when suspended by it, can be more conveniently handled, and during a demonstration or operation the view of the patient and proceedings can be made perfect to the onlookers. Further, the scaffold can be placed over any bed, couch, or table, and is readily moved from one place to another when taken to pieces.

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION

Part Second.

REVIEWS.

Cougnet Alberto on Sea-Coasts.

A LIVELY German writer, the Gräfin Hahn-Hahn, remarkable, if I remember right, as being one of the few cases where the operation for *strabismus*, performed by Dieffenbach, proved a failure, near the close of "Cecil," one of her booklets, gives a very gloomy view of the climate and surroundings of a small Pomeranian town on the coast of the Baltic: gray and deadly silent, dimly seen through a thick mal-odorous mist, the narrow, dirty streets of onestoried, ill-built houses, with dismal sights and infrequent sounds, resembling what may be noticed in some of the most backward of the coast towns on the east of Fife when covered with a "haar" from the German Ocean. These features are made to contrast with the situation of some of the other characters of her story, who passed the winter "an den lauen Küsten des Mittelländischen Meeres, in der lieblichsten und reichsten Natur."

To fully appreciate the immense difference between Northern and Southern European marine climates—between the neighbourhood of Stralsund and the Riviera—no better method can be chosen than a perusal of the work "Sulle Spiagge del Mare," a treatise on the climatology, balneotherapia, marine botany, etc., by Dr Couguet Alberto of San Remo, which lately came under my observation. As becomes an Italian savant and scholar, the author commences with a reference to classic mythology—how the giant Antæus, in his rough-and-tumble encounter with Hercules, derived new vigour every time he was floored on his maternal earth; so, on the contrary, the present humanity, in whose veins runs no drop of blood from deity nor semi-deity, but rather exhausted by so many corporeal and spiritual fatigues in the turbid and unwholesome life of great cities, and decaying from age to age, seeks from the sea new forces, new lymph to sustain and resume that continuous strife, now joyful, now dejected, which is termed Life. He draws a vivid picture of the troops of sufferers who now congregate at the various watering-places; some afflicted with the innumerable maladies generated by the activities of the great centres of industry; others paying the penalties engendered by the transgressions of their parents; and others reaping the rewards of their own sins and follies—giving the idea that Italy, no more than Britain, is exempt from numerous specimens of that most absurd class of all two-legged animals—*fast people.*

After narrating how the book of the English Floyer, who flourished last century, depicted the advantages of sea-bathing so forcibly, as to induce George II. and his Royal family to become quite enthusiastic in the use of it,—since which time there have arisen a great host of English, German, French, and Italian writers who have convinced the most sceptical of the advantage and importance of the subject,—he goes on to enumerate a list of the coast stations of these separate nationalities, and dwells on the necessity incumbent on the medical hygeist to make himself familiar with the peculiarities of these stations, so to decide scientifically as to their adaptability to the diversity of cases and prospects as to successful cures.

"Sea-coasts vary in different localities, and are subject to conditions of latitude, temperature, atmospheric pressure, nature of soil, vegetation, etc., which it greatly imports to know and appreciate. The proportion of salts and gases dissolved in sea water varies not only from sea to sea, but from one point to another of the same littoral,—sometimes arising from the greater or less amount of fresh water poured from rivers, torrents, etc., from the greater or less profusion of marine vegetation, algæ, fuci, etc. The temperature, the degree of electricity, of oxidation, of phosphorescence, the mobility of the waves, the tidal influence—are all properties liable to variation. These characteristics, besides creating differences in the physiognomy of one sea-beach as compared with another, produce very distinct curative influences in special maladies; whence it comes that the climatic influences of localities should be in strict and rational connexion with the idiosyncrasies of the individual sufferers, with the greater or minor grade of excitability and power of reaction, variable according to sex, age, habits, organization, etc."

The second division of the work we are considering is occupied with the chemical composition of sea-water, its temperature, depth, and special properties. The composition of the water of the Mediterranean is contrasted with that of the Black Sea, the Sea of Azof, and the Caspian, with its great preponderance of mineral elements (40·94 of the Mediterranean; Black Sea 17½, 11¾ Azof, and 6¼ in the Caspian), the two last named being the recipients of larger rivers. Regnault's table of the chemical components of sea-water is next quoted, which does not appear to differ materially from that usually given in chemical text-books. As to temperature, the experiments of Dr Macario, made in summer at the peninsula of Croisic, Brittany, are subjoined; the author referred to finding that the temperature of the sea is usually under that of the air when taken at mid-day; more elevated at midnight: at 8 A.M. and 2 P.M. it is above that of the atmosphere in the month of July. Less variable than that of fresh water, whether in lakes, rivers, or torrents, the chlorodized water of the sea is better adapted to absorb and retain caloric. A curious phenomenon, common to many seas, which must possess some therapeutic importance, is phosphorescence, a matter which has caused great diversity of opinion. The majority incline to ascribe it to electricity, and consequently advise as most useful bathing when this is most apparent. Dr Alberto, however, is of the belief, induced by the experiments of Shaw, Spallanzani, and his own teacher, Professor Paladino of Naples, that it is owing to the immense quantity of minute molluscs and protozoa which live and become decomposed in the sea.

As to sea-breezes and their influence on balneotherapia, Dr Alberto gives Dr Pouget's sentiments, which are, that to benefit the bather the winds must blow in the right direction, departing from the full ocean, distant from the coast; secondly, that they must not be diverted nor intercepted by any opposing obstacle, such as rocks, islets, etc.; thirdly, that they do not impart any deleterious principle, whether taken *ab origine* or received along their course. The west wind is mentioned as salutary, but the E. and N.E. are described as in the English proverb—

"The wind in the east
Is good for neither man nor beast."

This quotation, with others, shows Dr Alberto's linguistic attainments are respectable, and looks somewhat piquant inserted into the Tuscan composition.

The influence of the tides—that pulse of the sea, as Michelet poetically terms it—is considered as bearing on the advisability of selecting the rising tide when bathing, the waves being then more tepid and the shore less humid, and the bather, if no swimmer, then running less risk of being carried back by the retiring waves. Dr Alberto hazards the conjecture that it was due to his knowledge of the tidal phenomena that Moses was able to withdraw his people from the Pharaonic persecution. In all probability the nature of the tides in the Gulf of Suez was as well known to Pharaoh and his councillors as to Moses.

"Besides the mechanical action of the tides and the tonic influence of the lowering of temperature, sea-water is endowed with a physical property not to be passed in silence. This force is the negative dynamic electricity, possessed more or less by all mineral water, none the least of which may be cited—the soda-chlorides of the sea. Bertelli of Bologna and Scoutteten were the first who observed the beneficent effects of mineral water in certain diseases of nervous exhaustion, and their experiments were continued by Hyman and Riebs in 1872. These confirmed what Scoutteten had formulated, which is that sea-water is electro-magnetic negatively, while that of springs, rivers, lakes, etc., is positively. Becquerel, as the results of his observations, states that the sea at its line of contact with the land develops a most sensible but continuous electricity, and that sea-water also, when brought into contact with the living body, develops a dynamic electricity, which, though small in amount, is distinctly demonstrable by the deviation of the needle of a galvanometer sufficiently sensitive."

Chapter III., devoted to the botany and zoology of the sea, may be referred to as sufficiently interesting in its place; and the fourth "division extols the benefits of the 'areotherapia and hydropathy maritime.'" Chapter V. gives the hygienic rules for sea-bathing, the sum of which may be compressed in the quaint precepts of Dutroleau, on the model of those of the Academy of Salerno:—

"1. Avant le bains tu marcheras,
Pendant un bon petit moment.
2. Puis tu te déshabilleras,
Sans hâte, mais rapidement.
3. Dans l'eau tout de suite entreras,
Sans flâner au bord nullement.
4. Tout d'un coup tu t'y plongeras,
De la tête au pied carrément.
5. Dix minutes y resteras,
Toujours, toujours en mouvement.
6. Enfin, lorsque tu sortiras,
Tu te vétiras chaudement."

Chapter VI. may be described as the above aphorisms extended and commented on, while the seventh contains many valuable remarks on the indications and counter-indications of sea-bathing. "The maritime cure agrees in all cases wherein the animal economy is afflicted with atony, whether from defective action of some important organ, or from a species of general debility affecting all the functions without attaching itself to any one in particular—disconnected casually with any visceral alteration. It agrees particularly with the lymphatic and strumous temperament, with rickets, chlorosis, and every kind of anæmia of unknown origin, as also in the anæmias subsequent on dropsies and hæmorrhages; in children of vitiated and cachectic constitutions, with prominent bellies and thin slender limbs, like little Chinese deities; as also in those of tardy growth,—a residence on the coast, combined with sea-baths, offers the greatest advantages. Much care, however, is necessary in administering baths in such subjects whose powers of reaction are necessarily feeble." A case of Dr Guissac's is quoted, where a feeble four-years-old child, after several daily baths, became restless, lost appetite, took rigors, and from syncope passed into coma, and finally died.

Persons of advanced age ought also to bear in mind that the depression of their vital forces and relaxation of their tissues require tepid or warm rather than cold sea-baths. The author enters minutely into the beneficial action of this measure in the promotion of puberty, and vaunts highly its efficacy in weakly young ladies.

In nervous maladies, generally speaking, more unsuccessful than prosperous cases have been registered, as also the dissipation of many illusions. Brora writes—"In many individuals, such as the hypochondriac, the hysterical, and in those affected with nervous palpitation of the heart, sea-bathing is absolutely contra-indicated." Epilepsy might sometimes improve by this, especially when made by surprise; but it requires so many precautions, it is better to abstain and follow the Hippocratic maxim, *Nisi adjuvare potes, saltem non nocere.*

Some cases of functional or reflex paralysis are mentioned by Macario as having been wonderfully improved, but here it is necessary to ascertain that the material disorder which causes the paralysis should have disappeared—a result that could only occur long after the reception of the accident that gave rise to it.

As to skin diseases, all authors agree about the favourable action of sea-baths on the dry forms, such as prurigo, lichen, pityriasis, dry eczema, psoriasis, etc., avoiding them, however, in the humid eczema, seborrea, herpes, rupia, pemphigus, etc. Although James speaks well of them in syphilitic dermatoses, others disbelieve in their eligibility. In obstinate intermittent fever with splenic hypertrophy, the marine hydropathy is prosperously used, especially combined with the douche over the splenic region. Professor Cantani recommends it in diabetes as favouring the interchange of new for exhausted plastic organic material. He prescribes also the use of oysters and other marine molluscs. The same treatment is particularly advised for those who require Banting.

Brochard lauds most emphatically the special action of the atmosphere of the ocean on morbid bronchial mucous membranes, especially in the convulsive coughs of children at the epoch of their development.

Dr Macario, previously cited, states his own case as illustrative of the point in question:—"For more than twenty-five years I coughed continually, in the morning especially, with some mucous expectoration. I have dwelt in various districts in France, particularly in Paris, Berry, Lyons, and finally in Nice, where I have definitively fixed my abode during eight months in the year, and the cough has always followed me like a shadow. But for the last ten years, ever since I trode on the peninsula of Croisic (coast of Brittany) my cough ceased as if by enchantment, and is silent during my sojourn in this marine station—that is, during the three summer months. But hardly have I left this beneficent shore when the cough assails me anew, even in Nice itself."

The marine air produces the same benefit as that of the Alps, but each has a different *modus efficiendi;* the former acts more forcibly and energetically on the constitution which retains some robustness and internal resources to profit by it, while the second acts more gently, with slower efficacy, being thereby more suitable to the weaker and less excitable organizations. From this important distinction, the conscientious physician, who takes the safety of his patient much to heart, ought to be able to discriminate whether the Alpine or the marine atmosphere is the better suited to the case he has before him.

A pretty full and complete disquisition on the best method of restoring cases of drowning occupies the eighth chapter of a very instructive and interesting little treatise.

An engraving of a view from the sea of San Remo, somewhat resembling one of Rothesay Bay, *minus* the pier and shipping, introduces us to several pages on that locality as a winter and summer place of resort for invalids. It may professionally import to some of us to know what the place has got to say for itself. I will therefore proceed to Anglicize every word of Dr Alberto's description, except the opening verse, from Ariosto:—

"I monte Ligustici e Riviera,
Che con aranci e sempre verdi mirti;
Quasi avendo perpetuo primavera,
Sparge per l'aria i ben olenti spirti."

When Italy, in order to gain her glorious independence, was constrained to sacrifice the county of Nice to France, her generous ally, her diadem was certainly despoiled of its most brilliant "oriental sapphire." Nice, in truth, combines in itself all the ideal of a "ville de saison,"—excellent climate, magnificent topographical position, all kinds of baths, casinos, theatres, clubs, and other centres of recreation and amusement, superb hotels, shops among the richest and best furnished in Europe—all of which unite to render it now, as it always was, the general resort of the most distinguished foreigners who congregate there—the traditional, most popular abiding place in Europe. A hundred poets and romancists have celebrated its beauties and Capuan delights; suffice it to cite Staël, Ratazzi, Alphonse Karr, Dumas, etc. But, alas! when the great holocaust was once completed, nothing remained for Italy but to console herself and search out as quickly as possible a spot worthy to be compared with such a rival. This priceless pearl was found on the Ligurian coast, in the midst of the perfumes of its orange and lemon groves, amid the deep green of the olives, and the palms majestic as those of the Psalms of David. The competitor of the French Nice was the Italian San Remo. What endowments decided the choice? The climate,—nothing else but the climate. In fact, whoever had seen San Remo before 1860 would have much trouble in recognising in this graceful, coquettish little city the old-fashioned humble town of antiquated dingy houses, of narrow steep streets, where sunlight never penetrated and cleanliness was unknown. San Remo now enjoys all the accommodations demanded by aristocratic life. Elegant villas adorn its hills, like the "Campagne Felice" of our ancient Romans; splendid abodes of comfort and luxury—equal to the most handsome in Nice, Pau, Vichy, etc.—are being yearly added to those already constructed; and San Remo, where only a few English families were lodged, attracted accidentally by the writings of Ruffini, Panizzi, and Daubeny, who were the first to bring into notice the benefits the sick might derive from the tepid, sweet climate of this excellent locality, now counts by the hundred strangers from all parts of the world. Such celebrity this city was able so rapidly to attract to itself from its mild, salutary climate. Empresses, princes, and princesses, and numerous other representatives of Italian and foreign high-life, came to render with their presence a tribute of esteem to the ancient Matuta, and confirm her in the idea of having been selected as the fortunate rival of the Mar-Alpine capital. San Remo is situated in an enchanting bend of the Maritime Alps, and is exactly along the Ligurian littoral railways which lead from Genoa to Nice, in 43° 47′ and 56′ N. latitude, and 5° 26′ and 30′ E. longitude, distant 45 kilometres from the former and 137 from the latter terminus. It occupies a nearly square superficies of 2 kilometres, and contains 10,500 inhabitants. Seen in front from the sea, it presents the aspect of a vast amphitheatre, crowned in the midst by a pyramidal promontory, thickly studded with old houses, stuck back to back, terminating in a species of high-level, adorned with the cupola of the sanctuary of Madonna della Costa, which is situated at the side of the celebrated Opera

Pia of the Gran Magistero, of the order of San Maurizio and Lazzaro. The base of this pyramid is formed by the two great feudal palaces of the Marchese Borea d'Olmo, and the other that of the Conte Roverizeo di Roccasterone. This triangular pyramid constitutes the antique San Remo. The new lies underneath and along the two semicircular wings of the amphitheatre. These go on to terminate in two promontories which project far into the sea, forming a barrier which effectively protects the city from the two most powerful and obnoxious winds, the Greco and the Mistral. These promontories are termed Capo Verdo on the N.E., Cape Pino on the N.W. It may be mentioned that Capo Pino is the more esteemed from being planted with marine Alpine pine-trees, of known efficacy in the cure of bronchitis and chronic catarrh through their resinous elements. These projecting spurs of the mountain-chain serve to defend San Remo from the cold winds from the north.

Within its precincts it includes seven pleasant hills to embellish it, in that respect resembling the ancient capital of Latium. This coincidence may be for San Remo of favourable augury. The geology of the district is of the Secondary and Tertiary epochs. To the second belong the silicious sands, brown and bluish coloured, alternating with chalk with fucoids. To the Tertiary is ascribed the vast basin of yellowish clay, in which are found buried the vestiges of Echini, several species of bivalve conchæ, impressions of leaves of planes and oaks. These clay banks are fractured sometimes by coarse sandy strata and pudding-stones, cemented with numerous entire pecten valves and fragments of other shells. The Sanctuary and part of the old town are situated on this Miocene clay. Over all the coast down to Berigo are found rich strata of lithographic limestone, highly valuable in quality, even preferable to that of Francese del Vigan, Chateauroux, or Monaco di Baviera.

The gardens of San Remo, splendid with lemons, oranges, olives, palms, melons, etc.; a varied number of exotic plants proper to warm climates may be noticed, as the *Musas*, with gigantic leaves, *Yuccas*, *Araucarias*, *Camærops bambusi*, *Glycinæ sinensis*, *Schinus molle*, etc., which make so beautiful a display in the public gardens and those of the Empress of Russia.

The inhabitants are robust and healthy, sober and civil; the women of the lower classes are strong and accustomed to bodily fatigues, of which the men allow them to get more than their share, and ignorantly and ignobly profit by their sweats. Epidemics have been unknown here; from 1833 till now none have occurred. Tuberculous families are rare even among genteel people. San Remo pertains to the dry temperate climates where the meteorological conditions are sufficiently varied, and thereby it is very suitable to chronic pectoral maladies where the lungs are not much disorganized, and little tendency to rapid exacerbations; but it is rather hurtful to subacute pulmonary lesions requiring a moist, tepid climate, where cold nights are few and the mid-day hours moderate. In this town the relative humidity varies on average from 60° to 70°, minimum 17°, maximum 94°. The three streamlets that traverse the city, the clayey subsoil, and more especially the sea breeze, are the chief factors of the humidity and of the production of the beneficial vapours that arise from the sea and spread over the place.

The temperature is warm in the winter, and sufficiently fresh in the summer. The second advantage is owing to the marine breezes tending continually to renew and refresh the ambient air. The average temperature oscillates from 9° to 16°. In some few nights at the end of December and beginning of January the thermometer descends 2° Cent. below zero.

Complete meteorological observations made from 1866 to 1874 demonstrate the medium temperature in these years to have been—

Winter	from	9°	to	3°	Cent.
Spring	„	14°	„	1°	„
Summer	„	22°	„	6°	„
Autumn	„	16°	„	6°	„

Medium elevation of the barometric column at 40 metres above the level of the sea is from 0 mm. 753. The variations presented during the year are sufficiently sensible, and vary from 0·736 to 0·770.

Wet days are not very numerous; months often pass without a drop of rain falling. Showers fall abundantly in autumn, but rarely in winter and spring; in summer rain is almost entirely absent. Average of days when rain falls is annually from 42 to 53, thus divided:—

In Autumn	from 15 to 20
Winter	from 12 to 15
Spring	from 10 to 12
Summer	from 5 to 6

In 212 days of the winter season there are 83 serene, 87 half-serene, 42 cloudy, and 34 rainy. These figures, as my friend Dr Schivardi writes, are such as no other place can show. As to summer, one may reckon on one or two wet days per month. Fine days may therefore be calculated on as running from 250 to 260 a year. The annual rainfall amounts to about 720 mill. The English physician, Sir Henry Daubeny, who has practised here for long among the foreign colony, reports a computative table in the book, *The Climate of San Remo*, as to the wet days annually found at the principal towns of the Western Maritime Alps, as also those of the south of England, which gives the following results:—

San Remo,	45	Cannes,	52.
Bordighiera,	45	Penzance,	178.
Mentone,	80	Torquay,	132.
Nizza,	60	Undercliffe,	146.

From this it appears that San Remo is superior to all other winter stations; and what advantages may be derived from it by those invalids who are not confined to their chambers and deprived of the pure air of the fields and the sea-beach! "This I consider (dice il Daubeny) very important in tuberculosis and debility, in which cases the invalid often suffers greatly from too close confinement to the house and consequent loss of fresh air."

As to the winds, San Remo, as already observed, being protected on the N.E. and N.W. by those two insurmountable barriers—Capo Verde and Capo Pino—may be considered as the calmest among its sister-stations. On account of these two ramparts the place is but little molested by the Greco and Mistral; when, however, as but rarely happens, the former agitates the gulf it is the forerunner of a wintry period of fourteen days. As Schivardi writes, "easterly and westerly winds are not wanting, particularly the first, which, towards the end of February and in March, increase to the magnitude of tempests, but not very frequently. The south winds, the true rain-carriers, present themselves at the equinoctial periods, but at times even these are not adequate to save the marvellous products of the bay from the consequences of drought."

In the summer it is the east winds that curl up the waves, and thus restore and refresh. San Remo, finally, being almost all paved, and the streets being rather narrow, does not admit of those clouds of dust which, as in Nice, Bordighiera, and Mentone, are so injurious to the respiratory passages; or that the wind should be too impetuous or furious. The winters pass without a particle of snow being seen; on the rare occasion it appears it melts as quickly as it falls. In 1875, when heavy snows fell along the coast, there was none in San Remo. Mists are never seen, hail seldom, although at the present writing (21st March 1877) a hail shower has continued for about ten minutes. Such an event has not occurred for the last seven years. Storms (thunder) are rare, the electric fluid discharging itself rather on the sea than on the mountains and adjacent hills. With regard to summer, as I have already mentioned, San Remo, like Naples and other coast cities, enjoys a pretty fresh atmosphere, when the heat is intense in inland places not far distant. In fact, the temperature of this place oscillates from 18° to 26°, attaining the maximum of 30° Cent., whereas in Turin, Milan, Rome, Florence, and also Nice itself, we find contemporaneously the fine ciphers of 37° to 40° Cent. These differences arise partly from the somewhat elevated situation of San Remo, from 40 to 50 metres above the level of the sea, partly from the nature of the soil, this being clayey and with vegetation, while that of Nice and Mentone, being sandy and chalky and bare, causing, in seasons when no rain falls, the ground to become arid, and is thus insufficient to support a continuous evaporation. The air being deficient in humidity and surcharged with electricity, becomes dry and irritating.

Lastly, the sea breezes, which come from the east and carry to the city the beneficent marine vapours, may be stated, as also the presence of the three torrents traversing the city, which also contribute the fresh air of the valleys through which they pass to supply the constant evaporation. From these important considerations it appears that San Remo is to be regarded as a summer and bathing station equally eligible with any of the marine establishments which are annually becoming more numerous on the coasts of the peninsula.

About four years ago there was erected by an anonymous company of subscribers on the beach of San Remo an elegant wooden structure in the fashion of a Swiss chalet. It is noticed that the number of bathers is yearly augmented, and that those who came once repeated their visit two or three times afterwards—a sure indication of the amenity of the climate and the benefit derivable from it. It must be admitted, however, that the situation of the bathing establishment referred to, being at the port, may not be the most fortunately chosen; but, when we reflect that the port is only nominal, there being only one or two vessels that station themselves there to load with oil and lemons; that the water there is pure and clear as in other parts of the coast; and that, moreover, the structure is sheltered from the north-east by the old fortress and its curtain which are prolonged to the mole; hence it occurs that, while in other places the bath-cure is interrupted by the impetuous winds that dominate them, in San Remo the bathers are never forced to desist for a single day; it must, therefore, be confessed that the situation is not so ill-chosen as might be supposed. A fine soft pliant sand caresses the feet of the bathers, and numerous families of algæ and sea-wrack give to this beach a marine odour that stimulates the digestive functions and sharpens the appetite.

Our Mediterranean is a sea of the most limpid effulgence and of a tepidity that allures the shyest to disport themselves in it. Dr Bennett, in his book on the climate of Mentone, speaking of this sea, says that at all periods of the year he has found it 5° or 6° higher than in the corresponding latitude of the Atlantic Ocean. He goes on to mention—"Even in winter I have never found it lower than 54° on the Mentone coast in deep water." Density of the water of the Mediterranean, 1·0258 at 21°; this density corresponds to 3°–5° of the areometer of Baumé. Its composition, as given in the analysis of Usiglio, is, in 1000 parts—

Chloride of Sodium,	29·424
" " Magnesium,	3·219
" " Potassium	0·505
Sulphate of Magnesia,	2·477
Chloride of Calcium,	6·080
Sulphate of Lime,	1·357
Carbonate of Lime,	0·114
Bromide of Sodium,	0·556
Peroxide of Iron,	0·003
	43·735

San Remo, not having any large river in its basin, possesses a tract of sea which must be more abundant in chloride of sodium than any other point of the Riviera; besides this, it is to be observed that the Mediterranean, where from the great heat to which it is exposed, promoting an extra evaporation, contains ½ per cent more of salt than the ocean, while the Baltic, which, from its northern position, is not subjected to so great an evaporation, and receiving so many large rivers, is found to have scarcely one-half of the salt of the North Sea, which lies not very distant. The temperature of the Ligurian Sea at the summit and near the coast is 10° to 16° Cent. in the warmest months—from mid-June to mid-October the average is 23°. Calculations made as to the state of the sea during the year give 232 days of calm, 67 of agitation, and 64 stormy days. The calm days run from May to October, the stormy from October to the end of December—the most tempestuous. The winds from the south-east to the south-west occur from the beginning of January to the middle of May. There being no tides in the Mediterranean, those horrible tempests caused by the moon being *in sisigi*, that is, at the epochs of the equinoctials in March and September, are not to be apprehended. From the foregoing exposition there can be no doubt but that there is reserved a splendid future for San Remo as a summer station—the which will equal the opulence and importance of the winter resort, as soon as a railway passing by Val di Roia or Val di Nervia shall link more closely this fertile and enchanting portion of the Ligurian coast to the ancient Piedmont, and when several walks in the smiling San Remo valley shall be opened under the auspices of the municipality and the combined proprietors.[1] For the rest, San Remo can offer to bathing families during the summer great advantages, with which no other locality can compare. First, the elegant and commodious villas along the sea, which, being free during the summer, can be let by their proprietors at most discreet prices; apartments in the sumptuous and splendid hotels, which also submit to a considerable reduction during the summer, without diminishing in any respect the comforts and advantages of the winter; provisions excellent, and the warehouses the best supplied and most luxurious in all the Riviera; circolo, library, theatre, and weekly balls in the *locale* of the bathing establishment; skating rink; Italian and foreign journals at the public kiosks and in the reading-room of the *Circolo;* picturesque sites for excursions; highly capable medical men, and a pharmacy, the International, equal to the best in Paris, Vienna, Berlin, and the neighbouring Nice. A manufactory of koumiss, directed by Dr Tymowski, offers the advantage of proffering a restorative and hygienic cure.

---

[1] This scheme, so much desired by all the colony, appears about to be realized by the special initiative of the excellent provost, M. Asquasciati Bartolomeo.

Notes on Rheumatism. By JULIUS POLLOCK, M.D., Fellow of the Royal College of Physicians; Senior Physician and Lecturer on Medicine, Charing Cross Hospital; Physician to the Foundling Hospital. Second Edition. London: J. A. Churchill: 1879. Pp. 115.

THE *raison d'être* of this little book is not very apparent. It gives a short and, on the whole, neatly expressed account of the commonly accepted views regarding rheumatism, both articular and muscular; enumerates many of the ordinary remedies, constitutional and local, for these complaints, and cordially praises salicylic acid and its alkaline salts in the treatment of the articular form, while pronouncing them to be useless in the muscular. A few illustrative cases, with the changes of bodily temperature visibly depicted, are given in an appendix. We have noted one or two statements which deserve consideration, and, if authenticated, are important. Cases are alluded to which the author designates "malignant." In these, the symptoms of rheumatism cease; but the temperature rises to 110° Fahr., or even higher—the patient dying, in a day or two, from mere hyperpyrexia. In these cases "of hyperpyrexia the drug (salicylate of soda) seems to produce little or no effect. This is the more curious, that it was originally introduced as a remedy for high temperature."

"Chronic articular rheumatism, is, I believe, not unfrequently confounded with other diseases of the joints."

Speaking of muscular rheumatism, the author says: "In a large number of cases the urine will be found pale and clear-looking, in fact, as if there were nothing wrong with it. . . . But if this pale, clear urine be tested it will be found *intensely* acid."

The Surgery of the Face. By FRANCIS MASON, F.R.C.S., Surgeon and Lecturer on Anatomy at St Thomas's Hospital. With one hundred Illustrations. Pp. 170. London: J. & A. Churchill.

THE substance of this work was delivered before the Medical Society of London in the shape of three lectures, when the author held the position of Lettsomian lecturer. Fully illustrated as the lectures were by photographs, casts, and patients, they must have been pleasant to listen to; and by good arrangement and conciseness, Mr Mason seems to have got over a good deal of ground.

A fair acquaintance with the literature of the subject as contained in the London Weekly Journals of the past few years, and access to some of the London Museums, provided the lecturer with plenty of cases to quote, in illustration of the various injuries, diseases, and malformations of the face; but the information given is rather scrappy, and there is little, if any, attempt at originality, either in method or practice.

As it has a good index, it may assist our young lecturers to illustrate their lectures before they have had cases of their own to quote.

A Handbook of Surgical Pathology. By W. J. WALSHAM, M.B., F.R.C.S. London: 1878.

WE demur, at the outset, to the title given to this book. One would expect from the name that the substance would comprise some original investigation in the subject of which it professes to treat. So far as we can see, however, it appears to be little more than a catalogue of preparations in the museum of St Bartholomew's Hospital, and one would have been inclined to look upon it more favourably had it borne the superscription which the subject-matter entitles it to. It used to be a saying of the late Mr Syme, that instead of increasing the size of his book on surgery, in its later editions he had considerably reduced its dimensions—a process quite in keeping with the character of the author. It seems to us that if writers on medical subjects would act on the same principle, would think more and write less, and would adhere to facts not as yet known, a great deal of time might be saved in reading, and a general benefit would be conferred on scientific medicine.

In the book before us, we are afraid the key to it is to be found in the preface—a so-called "grind" for the College of Surgeons' examination. We cannot too strongly deprecate this kind of knowledge. To place this in the hands of students as a "Handbook of Surgical Pathology," when there are many books on the subject so much better entitled to be ranked as guides in such matters, is what we cannot recommend. Call it a "Catalogue of the St Bartholomew's Hospital Museum," and we shall say it serves a good purpose, and is well fitted for what it professes to be. To say, however, that it gives anything new, or offers even a good summary of the current ideas on surgical pathology, is stretching a point, and we would strongly advise the author, that instead of trying to make a large book out of the mere description of specimens in any museum, the profession would much more appreciate the same amount of energy expended on a smaller sphere of labour.

An Essay on the Pathology of the Œsophagus. By JOHN F. KNOTT. Dublin: 1878.

THIS, as the production of a third year student, is certainly a very creditable essay. The œsophagus is an organ whose pathology has been much neglected, and hence, no doubt, the inefficiency of our means of treatment is to be accounted for. Mr Knott's book, although not possessing anything of a markedly original character, certainly ranks as by far the most thorough synopsis of the literature of the subject that we possess; and although, as he himself says, disease of the œsophagus is comparatively rare, yet in cases where it occurs, this will be a most valuable book of reference, and we should recommend it as such.

"*Section Cutting.*" By Dr SYLVESTER MARSH. J. & A. Churchill: London: 1878.

THE author of this little handbook informs us in the preface that his intention is to offer a short account of practical details necessary in the study of histology, special prominence being given to those which he has found by experience to be most serviceable. The object, so far, is good, many of the more commonly recommended treatises on this subject being too voluminous, and containing much that could with advantage be omitted. It will certainly be of use to one commencing the study of histology. The author evidently does not aim at anything higher than this, and perhaps the chief merit of the book lies in its being adapted for beginners.

Leisure-Time Studies, chiefly Biological: A Series of Essays and Lectures. By ANDREW WILSON, Ph.D., etc., Lecturer on Zoology and Comparative Anatomy in the Edinburgh Medical School, etc. With numerous illustrations. London: Chatto & Windus: 1879. Pp. 381.

THIS elegantly printed and illustrated book is accurately described by its title-page. It contains a large amount of interesting matter, conveyed in an easy, pleasant style, well adapted for evoking a taste for natural science, and teaching readers to make an intelligent use of their eyes. We have reason to know that the author is very popular as a lecturer on his favourite topics; and after looking into his book, we can readily understand how that should be the case. The lecture on "Parasites and their Development" will both interest and usefully instruct all who have not hitherto attended to the subject, revealing, as it does, dangers to which we are all exposed, and which due care and prudence, in diet and hygiene, may enable us to escape. "A Summer's Day" is delightful reading, and exhibits the author as at once a keen-eyed observer, and an artistic, imaginative admirer of external nature. We quote the following as a sample of his style, and as creditable to him as a man: "The sun has set, and has left a gorgeous halo of crimson and purple, with gold-tinted clouds to mark its apotheosis. When you stroll through next year's academy, or visit the studios of your brethren of the brush, you will have learned from the sunset yonder to be not overwise or overcritical in looking at evening effects, or boastful of your ability to distinguish what is natural from what is unreal. Yonder clouds if painted in all their gorgeous and fast-fading reality, might seem unreal and impossible; and the critic might then set himself above nature and artist alike, and maintain the absurdity of effects he has never seen. Therefore let the sunset teach you a canon of fair criticism, and a lesson in guarding against undue assumption of what nature may do or can do."

Recherches Expérimentales sur l'Emploi du Perchlorure de Fer dans la Diphthérie. Thèse pour le Doctorat en Médecine. Pp. 31. Paris: 1879.

THIS is an interesting thesis upon a most important subject in therapeutics—the value of the perchloride of iron in the treatment of diphtheria, and the manner of employing it in that disease. The author does not enter upon the general question of the advantages to be derived from ferruginous preparations; for in common with most practitioners who prescribe the perchloride in diphtheria, he considers that its beneficial action is not derived exclusively from the base, but also from the chlorine. It is neither the iron alone nor the chlorine alone, it is the substance formed by their chemical combination which constitutes the lauded remedial agent. The author's general views are in accordance with those which now prevail as to the value of the perchloride of iron in the treatment of diphtheria. He introduces his subject by the following sentences:—"Among the numerous medicinal agents employed and lauded in the treatment of croup and membranous sore throat, none perhaps have been more lauded than the perchloride of iron. In spite of detractors—in spite of failures—unfortunately too numerous—it is, perhaps, the agent which has yielded the most encouraging results. These considerations have induced me to undertake the work which I now submit to my judges. The different forms under which the perchloride of iron has been employed, the effects which have been obtained by different modes of administering it, and a new method of employing it (which may, I think, present some advantages in certain cases), are the topics which I propose to study in this humble work."

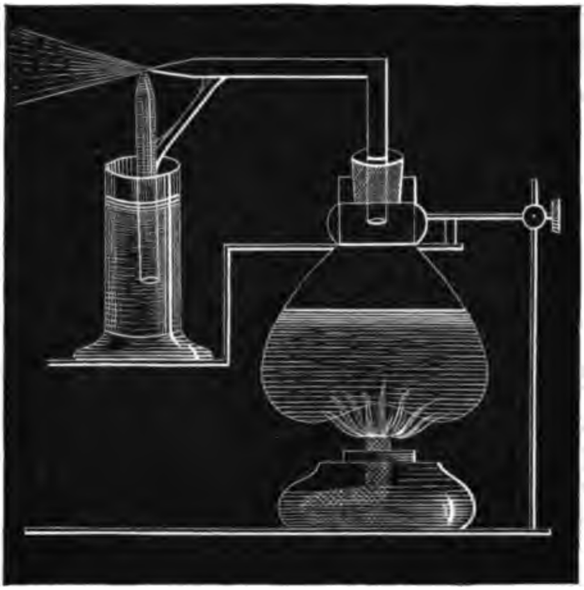
Dr A. Forget's "new method" consists in throwing, at short intervals, into the mouth, a warm aqueous spray, mildly charged with the perchloride of iron. *The method* is admirable: it is the best of all the methods of using the remedy in diphtheria; but facts cited by the author himself show that it is not *a new method.* We may add, that we have long known of more than one practitioner who, in diphtheria, often uses both carbolic acid and perchloride of iron in spray, limiting the medication to this manner of administration, which at once administers the medicine internally as a general remedy, and applies it gently and to every part of the local affection of the mouth and air passages. To Dr A. Forget, however, unquestionably belongs the merit of having fully, clearly, and convincingly laid an excellent and still too little appreciated method before the profession.

Passing over preliminary details, and a sketch of the different methods by which the perchloride of iron has been given by different physicians, we come to a history of the spray-method.

"In 1868," says the author, "Dr Cornil communicated to the *Bulletin de Thérapeutique* three cases in which he had employed, in the form of spray, a solution of perchloride of iron in hemoptysis. It is well known that since the first trials were made with water-spray by Salle-Girons, that method of administering liquid medicines has made immense progress consequent upon improvement of the instruments. They have now, as Professor Gubler stated in his last summer's course of lectures, attained the highest degree of perfection. As was said by our accomplished master, we can now attenuate water to such an extreme degree as to convert it into a nebulosity. When reduced to this state, water penetrates into the remotest cells of the pulmonary tissue, as has been proved by experiments, which I have repeated, as will be shown in the sequel. In reporting these interesting facts, I, who have thought upon the subject, would ask what might be the effect of bringing a solution of the perchloride into contact with the pulmonary tissue during life, inquiring whether it would not give rise to mischiefs greater than those which we wish to cure.

"It is not only the mucous membrane of the digestive canal which has the power of absorbing medicinal solutions: the mucous membrane of the lungs, throughout its vast extent, is also an admirable absorbing surface.

"These considerations induced me to undertake the experiments to be now related. Before describing them, however, let me say a few words regarding the instrument which I employed. The description shall be brief, for the instrument is simple. It is a spray-producer, made according to the system of Collin. It consists of a small glass globe, provided with an indiarubber stopper, and a tube bent at a right angle, and tapered to a point. Near to the tapered extremity of that tube is another tube similarly tapered, forming another right angle with the first, and having attached to it a sort of limb, which supports the angle. Together the two tubes form the letter *u* turned upside down, and having one of its limbs longer than the other..



"The following is the manner of using this apparatus:—The glass globe is three-quarters filled with common distilled water; the water, which it is desired to convert into spray, is put into a tumbler with a foot, a test-glass, or other vessel; the water in the glass globe is heated to ebullition, whereupon steam soon escapes from the tapered point of the first tube; if we then plunge the right tube into the vessel containing the liquid to be converted into spray, we soon see it ascending and escaping in a form resembling fine dust, which the steam carries with it, mingling with it, and in part, perhaps, condensing it.

"Such is the simple spray-producer which I have used. Among its other advantages, it produces a liquid dust (*poussière liquide*) more or less warm, in proportion to the greater or less distance at which it is placed. For example, with an external temperature of 15° C., on placing a thermometer at a distance from it of 30 centimetres, the liquid cone shows a temperature of about 25° C. That is the distance at which I have always placed the animals I experimented upon. I fixed them to a small board by their four limbs in such a way as not to interfere with the movements of the muscles of respiration.

"*First Experiment.*—To satisfy myself that the ferruginous spray had penetrated into the pulmonary cells, I made use of a guinea-pig weighing 750 grammes. Having placed it in the above-described position, I converted into spray the contents of a test-jar, the solution of the perchloride being 30 to a 1000. The jar contained 25 cubic centimetres. The duration of the inhalation was about five minutes. In this, as in all my experiments, before commencing to use the spray-producer, I took the precaution of causing the animal to inhale air charged simply with aqueous vapour, so that it might afterwards inspire more easily the medicated spray. During the inhalation, the animal breathed freely without any struggling, appearing even to take pleasure in lapping up the liquid. As soon as the ferruginous inhalation was terminated, I killed the animal by strangulation; and at once proceeded to perform the autopsy. I divided the lungs into different parts, putting aside their apices and bases. Then, after having made sections of the different portions of lung, I touched them with the best reagent for the detection of iron—that is to say, with a solution of gallic acid. I obtained—as I expected from my knowledge of experiments already made—an inky colour, the characteristic test, as everybody is aware, of the presence of iron. I twice repeated this experiment with similar results. I thus became convinced that the perchlorinated spray had penetrated the remotest pulmonary cells. I had then next to ascertain what became of it in the economy—whether it had the power of producing lesions, and if so, what these lesions were. In respect to the first question, I was not altogether without the means of foreseeing the results from my knowledge of the very beautiful researches of that distinguished chemist and pharmaceutist M. Adrian. This *savant* had ascertained that when perchloride of iron is brought into contact with albuminoid and hydro-carbonaceous substances it is reduced to protochloride. Dr Rabuteau writes as follows in his *Treatise on Materia Medica and Therapeutics*:—'Ferruginous preparations when they reach the stomach are there converted into the perchloride, and this perchloride on coming into contact with albuminoid substances is in turn transformed into the protochloride. It is in this latter form, when it no longer possesses the power of coagulating albuminoid substances, that it is absorbed, and becomes ferruginous aliment, and normal ferruginous medicine.'

"Inspired by these researches, and knowing what I should probably find, I wished to verify what I had learned. With this object, I performed new experiments upon animals of the same species. Persons imperfectly acquainted with the mode of spray-producing which I adopted may be tempted to call in question the result; they may say that the solution I used was too concentrated, and that if employed in the treatment of diphtheria, we should, in attempting to cure it, be running the risk of causing something worse than the disease. The simple answer to that objection is this: it is true that I employed a very concentrated solution; but after its conversion into spray, the solution was no longer so concentrated, for the aqueous vapour with which it mingled diminished its strength at least a third. Moreover, much of the solution is condensed externally, and does not enter the economy. Be that as it may, I now proceed to relate the second series of my experiments.

"*Second Experiment.*—A guinea-pig was subjected to three inhalations at intervals of two hours, the solution being 30 to 1000. The animal was beheaded one hour after the last inhalation. In the intervals between each inhalation, he was set free, and was offered food, which he eagerly devoured. At the autopsy the lungs presented the following appearances:—on their outer surface nothing abnormal was visible, and the usual light pink-red colour was observed; on making a section of the lung there was nothing to be seen except a small quantity of froth slightly tinged with green. To ascertain whether iron was present, I touched different parts of the lung with the yellow prussiate of potash, and obtained the clear blue colour, the characteristic test of the salts of iron. A small portion of the base of the left lung was touched with the red prussiate of potash, whereupon a deep blue colour was produced. Another part of the left lung, when touched with a solution of gallic acid, did not change colour. In three other animals, subjected to similar tests, similar phenomena presented themselves.

"Fearing that the non-susceptibility of guinea-pigs was no proof of the harmlessness of my inhalations, I experimented upon animals of another kind. I repeated my experiments upon two rabbits and a cat. The results were somewhat different.

"*Third Experiment.*—For two days I subjected a rabbit, weighing 2500 grammes, to three inhalations each day, the solubeing 30 to 1000. The animal took its food as usual. For about half an hour after the fourth and fifth inhalation, it seemed to be less lively. An hour after the sixth inhalation it was killed, when the lungs were examined. They everywhere presented slight congestion, which was greatest at the bases and apices. They yielded the same colours to the same reagents which were employed in the experiments made on the guinea-pigs.

"*Fourth Experiment.*—A second rabbit was subjected to the same tests, that is to say, subjected to six inhalations in two days. Cautioned by the results of the previous experiment, I reduced the strength of the solution to 20° by the *aréomètre pèse-sel.* At the autopsy a slight amount of congestion was found, but it was limited to the inferior lobe of the left lung. The colorations produced were the same in kind, but a little less intense. In the lower lobe of the right lung I could not produce any coloration.

"*Fifth Experiment.*—For this experiment I took a strong cat which, however, had grown thin by having led a vagabond life. This cat is still living, and has, ever since he was experimented upon, come daily to my door for a pittance of food. Formerly his fur was shaggy and coarse; afterwards, he grew fat and more lively, and his fur became silky and glossy. In three days, he was subjected to nine inhalations, the solution employed being reduced to 15°. At the first inhalation he took refuge in a corner, where he remained about a quarter of an hour without wishing to touch food. On the other occasion he sprang with avidity upon the food offered to him. He has since resumed his wandering life; and as a proof that I did him no injury, I may mention that when he sees me in the distance he runs up to me, arches his back, and begs for something to eat.

"Such are my experiments. They seem to show, *first*, that perchloride of iron attenuated in aqueous spray penetrates into every part of the lungs; *second*, that it is there, by coming in contact with pulmonary mucosities, converted into protochloride, which passes into the circulation and combines with the elements of the blood; *third*, that the officinal solution of perchloride reduced to half its strength may, without danger, be inhaled in accordance with the method which I have described."

Dr Forget's experiments require no commentary: they fully justify the simple but important conclusions which he has formulated. To use a too concentrated solution of the remedy is dangerous; to use a very diluted solution is safe; and it is impossible to bring the blood so rapidly and effectually under the influence of the protochloride of iron by any other means than that advocated by Dr A. Forget—namely, throwing it into the mouth attenuated in a warm aqueous spray. The perchloride (or protochloride) of iron is the most hopeful remedy in diphtheria; and the best way to use it is by spray inhalation.

As the result of considerable personal experience, we attach the utmost importance to *extreme dilution.* Great dilution facilitates absorption; great dilution prevents two inconvenient results, otherwise of frequent occurrence—the augmentation or causation of dysphagia, and the production of a feeling of constriction in the mouth and throat, which is very apt to make the patient rebel against the medication; and, if a child, to exasperate him dangerously, so as to make him expend his waning strength in struggling against the efforts of the administrator.

Solutions of perchloride of iron of great strength are locally used by some practitioners to remove the false membrane; and they are perhaps the least hurtful of the topical remedies recommended as solvents and caustics. Notwithstanding the irritating and therefore injurious influence of the local application of strong solutions of the perchloride of iron, ultimate good is often the result in virtue of, probably, a certain quantity of the remedy being absorbed. In addition to the frequently curative influence of the perchloride of iron spray in diphtheria, it exerts an immediate and never failing beneficial influence much desiderated in many cases—an arrest of putrefaction. It speedily removes the putrescent odour proceeding from sloughing false-membranes, the ugly things which used to be mistaken for gangrenous ulcerations of the mucous membrane. In 1859, Dr A. Ferreil stated and explained its value as a preventive of putrefaction in a paper communicated to the Académie des Sciences.

Traité Elémentaire de Chirurgie Gynécologique. Par le docteur A. LEBLOND. Avec 281 figures intercalées dans le texte. Paris, 1878. Pp. 660.

Elementary Treatise on Gynecological Surgery. By Dr A. LEBLOND. With 281 figures introduced into the text. Paris, 1878.

DURING the two decennia when France lay under the withering influence of Imperialisms, she fell back from the front rank in gynecology in which she had been placed by the genius and industry of Lisfranc, Récamier, Amussat, Huguier, Jobert, Maisonneuve, Velpeau, Valleix, and a great crowd of men with more or less familiar names. During the earlier part of that dark *régime* the influence and impulse of the old activity still manifested itself in this domain of medicine. The utterances of her Academicians still served largely to guide the minds of gynecologists all the world over in the management of those diseases of the pelvic organs which the new methods of investigation enabled them to recognise. Aran, Nonat, Valleix wrote works which were for years authoritative; Nelaton and Voisin cleared up the pathology of pelvic hæmorrhages; and Bernutz elucidated the relations, clinical and pathological, of pelvic peritonitis and pelvic cellulitis with a fulness to which subsequent writers have contributed nothing of importance. But that was all in Louis Napoleon's first decennium. During his glittering reign the nation fell asleep and dreamed that they were still the foremost people in the world, because the destiny of the nations seemed to hang on the will of their imposing ruler. Her gynecologists, too, came under the spell. They wrote as if nothing were being done in other lands. Only one work (*Traité des Maladies des Femmes*, by Professor Courty, of Montpellier) issued from the French press worthy to take rank with the masterly writings of an earlier epoch; and it came not from Paris, where Cæsarism had its capital, but from the southern university, which came less immediately under the blight. And, though one man was doing his best to keep France in line with America and Great Britain in perfecting one of the most beneficent of operations, it was, again, not at Paris, but at Strasburg that Koeberle achieved his successes in ovariotomy.

Whatever may be the result of the magnificent experiment in Republicanism that is now being carried out in France, gynecology may be congratulated on the national awakening that followed the catastrophe of 1870 and 1871, and that has led her French cultivators to a fresh development of their individual energies, and to a fruitful display of their too long buried talent. This revival is attested by the simultaneous starting in 1874 of two new journals devoted to the advancement of obstetrics and gynecology, and by works from Tarnier, Pajot, Charpentier, Chantreuil, Martel, Gallard, Guérin, Budin, and others worthy to be placed beside the productions of earlier generations. High among these we place the work before us, a work on gynecological operations such as the schools of Great Britain have not yet provided, and which it would be a fine exercise and a good service for some young gynecologist to translate into English.

The work divides itself into three sections. The first is occupied with the exploration of the genital organs, the second with the minor, and the third with the major surgical operations. Each section is written at once with a clearness which is characteristically French, and with a carefulness that would satisfy a German. As an illustration of the former, see the brief article on "Coccygodynia," (p. 327); to recognise the latter, study the profusely illustrated section on "Vaginal Fistulæ" (pp. 380–431). The work bears throughout the stamp of a man who is practically acquainted with the subject which he treats, and who has qualified himself for his task by a wide study and due assimilation of the writings and labours of American, British, and German gynecologists.

If we subject only one of the sections of M. Leblond's treatise to criticism it is because we have not space to criticise them all. If we point out some of the defects in the first section, instead of dwelling on its excellencies, it is to show how easily the work might have been carried to perfection.

The "Trousse gynécologique" either contains superfluities or it is incomplete. Some parts of its equipment are superfluous for the ordinary practitioner or for the gynecologist in an ordinary exploration; it would be rather a meagre armamentarium for a gynecological ward. The man who has at hand the "pince à pansement utérin" (p. 7) has no need for the "porte-pinceau" or the "pinceau de charpie" (p. 11). But no explorer of the pelvic organs can be sure that he has made out all that could be ascertained in certain cases unless he has made use of a small curved vulsellum to bring the uterus and its adhesions within full reach of the exploring fingers. If M. Leblond fails to make mention of this instrument we are bound to admit that he fails in company with most writers on gynecology, probably for the reason that the value of the information to be obtained from its use has not yet found a systematic expounder.

Had the author been more familiar with the use of the vulsellum we should not have had to notice another failure, which again he makes in good company. We mean, that in treating of the different varieties of specula he fails to point out in how many cases the use of a special instrument of any kind can be dispensed with when a practitioner has learned to posture the patient, so as to be able to explore the cervix by simply pulling back the wall of the vagina with two fingers. In the matter of specula the author seems to us too partial to the employment of the old Récamier and Ricord instruments, which are both very objectionable in various ways, and though he fairly describes the Sims speculum and the mode of applying it, we desiderate a more hearty appreciation of its value in a wide range of cases, in which we have no doubt M. Leblond will yet learn to employ it.

We looked to the chapter on mensuration with some interest, because it is generally a rather neglected chapter in such treatises. It disappoints us to find it devoted only to the description of the cervimetre of M. Chéron, and we cannot agree that the measuring of the cervix with such an instrument is of any special value in detecting the changes in size resulting from disease or to the remedies used to counteract it. These changes are not so pronounced as to make it worth while to mark them in centimetres or millimetres; and they can for all practical purposes be easily traced with the eye, or, better still, with the fingers.

But this leads us to remark again that there is a defect in the description of the vaginal touch. "Sometimes," says our author, "as Mad. Boivin advised, it is useful to introduce the medius at the same time with the index finger. This finger, being longer than the index, lets the cervix be more easily reached when it is raised in the pelvic excavation, or circumscribes better than one finger alone the outline of a tumour situated in the pelvis." Now, this is a miserably meagre exposition of the object for which two fingers are to be used instead of one in making a vaginal examination; and it ought to be regarded as the exceptional case when the examination is complete with one finger only. As a rule, except in the case of virgins, the exploration is unsatisfactory when two fingers have not been used.

The points we have referred to we regard as of great practical importance, and a due appreciation of them will enhance the value of the next edition. Next edition, we say, because the work has all the elements of a book that will live; and we trust we have said enough to show that it is one already well fitted at once to supply the needs of students and practitioners, and to sustain and spread the reputation of the able redacteur en chef des *Annales de Gynécologie.*

Part Third.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION LVIII.—MEETING V.

Monday, 17th February 1879.—Professor GRAINGER STEWART *in the Chair.*

I. *Dr Cadell*, for *Dr Alexander Thom, Jun.*, Crieff, read NOTES OF A WEEK'S OPERATIVE SURGERY IN PROVINCIAL PRIVATE PRACTICE.

Case 1. *Scirrhus Mammæ.*—A. B., female, æt. 49, had her left breast removed by the usual elliptical incision. Torsion was used to arrest hæmorrhage, a drainage-tube was inserted, and the incision brought together with catgut. The patient recovered completely.

Case 2. C. D., female, æt. 62, had lens of left eye removed by superior section in the usual manner. The ultimate result was good.

Case 3. G. F., male, æt. 59, had a fatty tumour over posterior aspect of scapula. This was removed, and the patient recovered rapidly. The several pathological specimens were also exhibited.

II. *Dr D. J. Hamilton* showed SECTIONS, naked eye and microscopic, of the EYEBALL, exhibited at a previous meeting by Dr Kirk Duncanson. The tumour was a melanotic sarcoma, which had originated in the cells behind the choroid; many of the cells were not pigmented at first, and the tumour was partly composed of blood-clot. There was no lens, and almost all the iris had disappeared. The sarcomatous cells could be seen between the layers of the sclerotic, but none were present in the cornea.

III. *Dr Kirk Duncanson* showed a LAMINATED EPITHELIAL PLUG FROM THE EXTERNAL AUDITORY MEATUS. It had been expelled spontaneously.

IV. *Dr Lucas's* paper on TETANUS AND THE SMOKING OF CANNABIS INDICA, was then read by *Dr Cadell.*

Dr Lucas first remarked on our ignorance of the etiology and pathology of tetanus. The treatment of this disease was equally unsatisfactory, as there was hardly a drug in the Pharmacopœia which had not been tried as a remedy. In his own practice he had met with several cases, of which the following were the most important:—

Case 1 was that of the wife of a non-commissioned infantry officer. She had been in labour, under the charge of a midwife, for about 60 hours. When he saw her tetanus had begun. On examination he found the face presenting. As the situation was urgent he ultimately perforated; the woman recovered.

Case 2 occurred in a newly-born child. The tetanus was caused by a cephalhæmatoma, and was at once checked by incising the tumour.

Case 3 was that of a young Hindu policeman, who suffered from tetanus without any evident lesion to cause it. In his case smoking of *Cannabis Indica* effected a cure. The Indian hemp, in the proportion of 25 grains of the leaves mixed with three or four times its bulk of tobacco, was smoked from a hookah whenever a fit threatened, and continued until the patient became drowsy.

Dr G. Stewart remarked on the interest of the paper.

Dr Keiller thought such papers as Dr Lucas's should be encouraged, seeing that in this way they often got valuable information, not only on the peculiar feature of rarely observed cases, but on the peculiarities of treatment to which they were sometimes exposed. He made a few remarks on the obstetrical part of the communication. Puerperal tetanus was rare, and he was not quite sure if this was a real case. The treatment adopted might be good, although neither turning nor perforation were at all usual in face cases. In cephalhæmatoma incision by the knife was not good practice, and it was difficult to see the connexion between the operation and the recovery in the case of the child referred to. Cephalhæmatomatous tumour did not necessarily nor indeed often give rise to tetanus, and generally got quite well without any touches of the knife, and therefore, as a rule, should be entirely left to natural conservative surgery.

Dr Peel Ritchie had listened with great interest to the paper. Some time ago he had received from Turkey the specimen of hashish he now showed. He had been told that, when smoked, its effect would be to cause a hysterical paroxysm, the smoker throwing himself on the floor. He smoked four grains with tobacco, and instead of the hysterical, it caused very alarming symptoms, namely, of the heart's action. When smoked by one not accustomed to it, hemp was therefore a hazardous remedy. The case of tetanus in the newly-born child was interesting, seeing it had arisen in connexion with a recognised traumatic cause. He thought evidence was more in favour of chloral as the best remedy in infantile tetanus. He had observed one case of traumatic tetanus in the child recover under large doses of the mixture of *Cannabis Indica.*

Dr R. J. Blair Cunynghame thought it curious that tetanic patients were able to smoke.

Mr D. J. Hamilton said that he remembered taking, when a third-year's student, along with a friend, a poisonous dose of *Cannabis Indica.* As an antidote they provided themselves each with a lemon. They noticed nothing until attending one of the afternoon classes. They could hear the lecture quite well, and understood it too, but were unable to remember what they heard sufficiently long so as take notes. The only other marked result was that of causing prolonged sleep. The lemon-juice had a remarkable effect as an antidote. They had none of the symptoms of uncontrollable laughter noted by Dr Christison. He had seen one case of idiopathic tetanus in the case of a child ten years of age, in which recovery took place under chloral.

Dr W. A. Jamieson had seen a case of idiopathic tetanus in a boy of twelve. Chloral did well, but hydrocyanic acid (20♏ P.B. subcutaneously) had no effect. He recovered. Soon after he had a case of traumatic tetanus in a girl, who died.

Mr Joseph Bell had, within the last two years, seen three cases of tetanus. The first was a case of severe laceration of the thumb. He gave 180 grains of chloral in ten hours, so that the patient nearly died of chloral poisoning. The second case was that of a young man who got his hand crushed in a sweeping-machine, and where he removed all the fingers except the index and thumb. This patient recovered from his tetanus, although he nearly died from the chloral. The third case of an old woman with a suppurating foot died somewhat suddenly, perhaps from the chloral, though twelve hours had elapsed after the last dose. It was certainly remarkable that in three cases he should only have had two deaths. Dr Lucas's third case was of no clinical value, as no dates were given, and according to Syme's dictum, if the patient survived five days, he would not die from the tetanus.

Mr D. J. Hamilton had seen chloral when injected hypodermically produce serious sloughs. In Mr Bell's fatal case the patient had a fatty heart.

Dr James Young had found chloral of great use in all kinds of convulsions, especially infantile.

Dr W. A. Finlay wished to know what the experience of members as to the division of nerves was. In one case he had divided the median and ulnar nerves without effect. Chloroform and chloral also failed.

Mr Bell had never done it. The classical cases of Liston and Murray were well known. He gave 30 grains of chloral every four hours until tetanus stopped.

Dr Carl Grossman had used chloral and chloroform. In four tetanus cases one had died.

OBSTETRICAL SOCIETY OF EDINBURGH.

SESSION XXXVIII.—MEETING V.

Wednesday, 12th February 1879.—Dr WILSON, *President, in the Chair.*

Mr Richard Freeland, M.B., Broxburn, was admitted an Ordinary Fellow.

I. *Dr Macdonald* exhibited a FŒTUS and PLACENTA from a case of severe accidental hæmorrhage. The woman was an out-door patient in connexion with the Royal Maternity Hospital, and was about the fifth month of her tenth pregnancy. When he, Dr M., was called to see her, about two o'clock A.M., he found the amount of blood lost had been enormous, the whole of the mattress and the bed-clothes being drenched. There was no history of injury nor fall, the only possible cause for the separation of the placenta being that she had washed out the floor of her house the night previously. Her former labours had been natural. At this time the pulse was almost imperceptible, but recovered somewhat in strength, after sulphuric ether had been once or twice injected subcutaneously. Previously to Dr Macdonald's arrival Dr M'Watt had plugged the vagina, but the bleeding still continued. The os admitted one finger, but not two. After an ineffectual attempt to dilate the cervix by Barnes's dilators, he tried to turn by the bipolar method, which was rendered very difficult in consequence of a large mass of clot behind the fœtus, pressing it downwards and fixing it towards the left. He now ruptured the membranes, and after the escape of some water and clots was able to hook down a leg. But the limb was too feeble to be useful as a tractor to dilate the excessively rigid os. As the bleeding was now slight, and the pains, though also slight, recurred at regular intervals, Dr Macdonald thought it better to wait till morning and see whether the cervix would not dilate somewhat. He was unwilling to administer ergot, because he feared it might increase the already present rigidity. Meanwhile the student in charge of the case remained in attendance. At 8.30 A.M. he received again a message from Dr M'Watt that the bleeding continued, and he reached the patient's house a little past 9 A.M. The patient was now in a condition of impending collapse; vomiting was excessive, and the pulse frequently imperceptible, whilst the cervix had undergone no apparent change. The bleeding was still continuing, though slight. Such being the state of matters there was evidently no time for delay—chloroform was administered cautiously, ether injected subcutaneously, and two or three slight notches made round the edge of the os with a probe-pointed bistoury to gain a little more room. after which the fœtus was removed by the aid of a pair of abortion-forceps. The placenta, which had been entirely separated, and along with it a large mass of clots, followed. Ergotine was injected subcutaneously. The uterus contracted powerfully, and there was no further hæmorrhage. The patient came round from the chloroform, but gradually sank in about two hours afterwards. A post-mortem examination was refused.

II. *Dr Croom* showed a UTERUS and ANNEXA of a patient who died of malignant peritonitis. The right ovary presented a large malignant mass, the size of a fœtal head; the left ovary was cystic.

III. *Dr Keiller* directed attention to a notice and illustration of a NEW TRACTOR FOR OBSTETRIC FORCEPS, in the last number of the *British Medical Journal*, 8th February (page 189), by Dr Duke of the Rotunda Hospital, Dublin, and reminded the Society that two meetings ago, when the principles of Tarnier's forceps were practically demonstrated by Dr Bell of Glasgow, he stated that he had occasionally used a similar hook or tractor for the same purpose, viz., that of aiding the blades of the forceps in drawing the child's head downwards and backwards instead of forwards, and which more natural direction the ingenious forceps of Tarnier were principally intended to accomplish. On Dr K. fixing the hook, which he then exhibited, into the fenestrum of his lower forceps blade and comparing it with Dr Duke's woodcut, the only difference observed was in the ring extremity of the latter, which was said to be useful in applying additional power when extraordinary extractive force was necessary.

IV. *Dr Macdonald* read NOTES OF A CASE OF HOUR-GLASS CONTRACTION DURING THE FIRST STAGE, which appeared at p. 913 of this Journal for April.

Dr Peel Ritchie had not met with an exactly similar case, yet it was evident that examples of such irregular spasmodic contraction were seen from time to time. He mentioned a case of this nature which had lately occurred in his practice; when he examined considerable progress had been made, the os being dilated to size of a crown-piece, and cervix soft and dilatable. The pains were regular and of some strength, and yet progress was arrested. Perceiving the spasmodic character of the delay he first tried the effect of lessening the contents of the uterus by rupturing the membranes, but without good result. He next gave ergot with the view of increasing general tonicity of the uterus, but only with the result of giving increased pain to the patient. He then administered opium, with the result of overcoming the spasm; the os freely dilated, and labour soon terminated. He believed in these cases that there was some emotional cause at work to account for the phenomenon, or that the irritation in examination was sufficient to act reflexly on the uterus in females of that temperament.

Dr Croom thought "hour-glass" a bad term, which we might discard. In these irregular contractions he thought the inner os was the part most commonly found in a state of spasm.

Dr Underhill observed that the recession of the head during contraction showed the spasm evidently to be in the cervical portion of the organ. He did not agree with Dr Croom that we could conveniently do away with the term hour-glass contraction. He thought it was a term universally recognised as meaning spasm of the os internum.

Professor Simpson had also listened with interest to Dr Macdonald's communication, and thought that the term "hour-glass contraction" was sufficiently distinctive to point the mind to the condition of irregular action of some bundles of the muscular fibres which Dr Macdonald had so well described. He (Dr Simpson) was not sure, any more than Dr Ritchie, that he had met with a case quite similar to Dr Macdonald's. Sir James Simpson used to teach his students to look out for cases of labour delayed by irregular spasmodic contractions of the muscular bundles in different segments of the uterus. In treating of labours delayed from inefficiency of the parturient powers, he used to illustrate this point by calling attention to the well-known conditions of inefficiency of the uterus in the third stage: how in one set of cases the fibres were all inert, and in another some were atonic, while others were active. These same conditions, according to him, were to be met with in the second stage, or even at the close of a mismanaged first stage. The summary of Sir James's teaching would be found in the Lecture-Notes in the volume of his selected obstetrical works, edited by Dr Black. The lessons he (Dr Simpson) had learned in the University he had seen confirmed occasionally in practice, and as Dr Macdonald could not say how long the labour in his case had lasted, it was fairly questionable whether it might not belong to the somewhat rare but well-known category of cases referred to. The treatment which they had been taught to adopt in such cases, and which he had followed with the best results in the few instances where he had met it, was just that which Dr Ritchie finally adopted, and adopted successfully, in his patient. When all sources of reflex irritation from bladder, bowels, etc., had been removed, the patient was to be deeply anæsthetized and opiatized. There was no harm in suspending irregular uterine action so long as the membranes were unbroken, and the child's heart beating healthily. The whole uterus as well as the system generally were brought into a state of quiescence; and after a period, sometimes longer, sometimes shorter, during which the vital dilatation of the soft canals progressed, the uterus, as if reinvigorated with the rest, resumed its work, and easily completed the labour.

Dr Keiller remarked that Dr Macdonald's case seemed of such a nature that, had it occurred in any less experienced hands, he might have been disposed to ask, Why was it not left more alone? but this he dared not question, seeing that Dr Macdonald had personally watched its progress, and successfully overcome the apparently rare "hour-glass" condition. It was proper enough to adhere to the old name of "hour-glass contraction," provided we limited the term, as Dr Macdonald had done, to the abnormal stubbornness of the circular fibres around or near the inner os, which were known to be sometimes slow in yielding, especially in preternatural presentations, where the presenting part did not readily get far enough down to exercise a due dilating force. We know that the uterus even in the first stage occasionally becomes impatient, and that its contractions sometimes continue to be abnormal, even to the failure of the usual dilatation of the os at the proper time. It is in such cases that in sending the whole organ to rest by opium, chloral, or chloroform, the natural contractile arrangement of its muscular force afterwards comes into play, so as to advance the labour aright even without the necessity for manual or instrumental aid. The present case, however, was unquestionably an unusual one, otherwise Dr Macdonald would not have treated it so specially, or taken the trouble to report it to us so fully as he had done.

Dr Macdonald, in reply, thanked the Society for the reception accorded to his paper, and for the criticisms made. He would not delay the Society by any lengthened remarks, because he was aware a much more important paper awaited consideration. He was sorry that, in consequence of imperfection of the record, he could not recollect how long the labour lasted before he saw the patient. But his impression was that she had been a great part of that day ill, late in the evening of which Mr Wilson asked his assistance. As to the strictures on the treatment made by Dr Keiller, he could only say, that in the circumstances he adopted the means that recommended themselves to his judgment as most suitable, and perhaps that was as good a reason as one could ordinarily give in favour of a particular treatment. The occurrence of such cases was clearly very rare, since, so far as he could make out from Spiegelberg, though the paragraph was decidedly not very clear, it would appear that he in his great opportunities had only met with three cases at term. He was not aware of the description of the phenomena of this condition given by Sir James Simpson, for though he attended to his valuable prelections with the greatest care, he had failed to notice any reference of the kind, and, certainly the statements in the summary of Sir James's lecture, did not cover such a case as this. But he accepted the statement made by the Professor of Midwifery, and was glad to find that the observations in regard to the condition of the lower uterine segment ascribed to Sir James precisely corresponded to the fact of experience observed and described in this case by himself. As to the term "hour-glass contraction" objected to by Dr Croom, he might say that the subject of the paper was so given in the billet in order to make the meaning as clear as possible; for, however unlike in shape the resulting figure of the uterus may be to that of an hour-glass, the term is generally understood among the profession as indicative of spasmodic contraction of the circular band of fibres around the inner os uteri, which forms the extreme inferior limit of the lower uterine segment. But Dr Croom will find that when the paper is published his susceptibilities are respected, for the contribution will be named, as it is headed at present, "Note of a Case of Spasmodic Contraction of the Lower Uterine Segment during the First Stage of Labour."

V. *Dr Hart* then read a paper entitled A STUDY OF TWO MESIAL VERTICAL SECTIONS OF THE FEMALE PELVIS IN THEIR BEARINGS ON THE NORMAL SUPPORT OF THE UTERUS AND APPENDAGES. The paper was illustrated by two sections from the cadaver, and also by diagrams, which appear in the Journal for April, p. 896.

Dr Keiller considered Dr Hart's communication an able and instructive one, and warmly congratulated the author, as all present must do, on this his first appearance as a contributor to the Society's proceedings. The minute study of the anatomical arrangement of parts which come so frequently under the observation and treatment of the surgeon and gynæcologist is of vast practical import, and the present paper, beautifully illustrated as it was by the pelvic sections and drawings exhibited, could not fail to promote the object Dr Hart had specially in view, viz., that of rendering more scientifically clear the structural changes and relations of the contents and immediate surroundings of the female pelvis in their bearings on the normal support of the uterus, prolapsus uteri, and the mechanism of ruptured perineum. He had endeavoured to follow, so as to comprehend the more practical bearing of Dr Hart's interesting demonstration, and could, from his personal experience, corroborate the correctness of the views propounded in the paper now read, especially in reference to the sequence of the changes which usually take place during the progress of uterine and vaginal prolapsus. Dr Keiller was not sure, however, if Dr Hart had sufficiently noted the special anatomical relations of the peritoneal reflexions in front and behind the uterus and passages, and especially in connexion with the common cases of cystocele and rectocele; but what he now more particularly wished to point out was what did not seem to have attracted the attention of Dr Hart to anything like the extent he (Dr Keiller) knew it deserved. He alluded to the results of perineal laceration in altering the natural curve of the vagina, and thereby facilitating prolapsus of its walls, the anterior of which (as Dr Hart had correctly stated) being usually the first observed to protrude. He had been long in the habit of specially directing the attention of his pupils (while lecturing on perineal ruptures and their influence as factors in promoting prolapsus) to what he believed was the common history of severe and mismanaged lacerations of the perineum. And he thought he was entitled to speak with some degree of confidence on a subject which had received no small measure of his time and attention. The way he generally put the matter was this, viz., that while the perineal structures were entire, and the passages comparatively normal, the vagina formed not only a curved canal corresponding with the pelvic axis, but was supported and strengthened below by the anterior parts of the perineum on which it rested. When, however, an extensive injury of the perineum took place, especially when what is anatomically called "the middle tendinous point" (into which the transversus perinei and other muscles were inserted) was torn through, and not restored by immediate or subsequent stitching, then it was that partly through the vagina being no longer curved, but now comparatively straight, and partly, if not principally, in consequence of the loss of perineal support, the course of the prolapsus steadily became downward and onward until, if unchecked or uncured, it through time presented one or more of the extreme forms too often met with in ordinary practice. He looked upon Dr Hart's admirable paper as a most valuable contribution in a much-required direction.

Dr Underhill had listened with much interest to Dr Hart's paper. He thought there were other causes at work besides those alluded to by Dr Hart, in assisting to prevent the descent of the pelvic viscera, otherwise how could we account for the uterus and appendages not descending in all cases of ruptured perineum. Then, again, that class of cases where there were great elongation of the cervix, the body of the uterus being in its place, there was evidently some other power at work. He considered one of Braune's drawings exceptional in some respects, the disease being all lowly placed.

Dr Croom warmly congratulated Dr Hart on his maiden appearance. The sections were very important and beautiful. He greatly admired Dr Hart's accurate description of the mechanism of prolapsus uteri, which unquestionably applied to the great majority of cases. There were, however, a certain class of cases where, from a change in the uterine axis, accompanied by an increase of weight, the earliest factor in the prolapse was descent of the uterus itself, and not of the anterior vaginal wall. He thought that Dr Hart's observations on Braune's sections as to the relatively greater thickness of the anterior than the posterior uterine wall was interesting, and his explanation of the reason of it original. The subject was deserving of further study.

Dr Macdonald stated that, in common with the other members of the Society, he heartily recognised the great merits and originality of Dr Hart's paper, and hoped it was an indication of still greater promise for the further advantage of the Society. The anatomical arrangements for the establishment of a base of support for the pelvic viscera by the sacrum and coccyx, the muscles, and other structures forming the pelvic floor, were given in the paper with great force, originality, and precision. But there were so many points raised—some of them quite new and others much disputed—in the paper, that he felt convinced one could not do justice either to Dr Hart or one's self by attempting any extended criticism after merely listening to a single hurried reading of such an important and difficult paper. One would require to read and re-read it before being warranted in passing an opinion regarding some of the points brought out. In regard to one important particular, however, he would venture to say that it appeared to him that Dr Hart was a little rash in dismissing the question of the retentive power of the abdomen so cavalierly as he did. Call it retentive power of the abdomen, or suction power, or the condition of negative pressure in the abdomen, or whatever you please, he could not help feeling that this property of retention in the abdomen was a force that must be admitted, and which was greatly concerned in the maintenance of the uterus in position, and was necessary to explain many cases of elongation of the cervix without prolapse of the body, to which Dr Underhill had referred. Dr Hart would find that he had not only Dr Duncan to deal with in this question, but that Professor Schatz, in his exhaustive experimental examination into the question of abdominal tension, had come to substantially similar conclusions. Though generally true that prolapse of the uterus was preceded by prolapse of the bladder and of the anterior wall of the vagina, and though this occurred so frequently, that in his last work on the perineum Dr Duncan had maintained that it invariably did so, yet he held that occasionally uterine prolapse occurred with the bladder in its normal situation. He had carefully observed a patient in his Ward in the Royal Infirmary last year in whose case there was complete procidentia of the uterus—indeed, the organ came entirely outside the vulva, yet there was no vesical prolapse, the anterior flexure of the vagina being quite as high as in the normal condition. In this case also the perineum and even the hymen were perfectly intact, the cause of the prolapse being traceable to a sudden effort at lifting a heavy weight some years previously, whereby the intra-abdominal pressure was suddenly increased, or, in other words, the retentive power was disturbed and destroyed. But, as he already said, he felt the paper merited more careful study before one could do it justice by attempting any critical observations upon it. And he merely made these remarks to show that the questions raised were more complex than at first sight would appear. He would conclude by again cordially expressing his delight at listening to such a valuable contribution.

Professor Simpson was not so taken by surprise as some of the Fellows seemed to be by the facts brought out in Dr Hart's very original communication, as he had had the satisfaction of furnishing Dr Hart with material, and seeing from time to time the result of his work. But he joined them very cordially in his appreciation of the value of these researches. Hart's method of looking at the pelvic floor as divisible into an anterior and posterior half was very helpful in leading to a clear appreciation of the relations of the various structures; his observation as to the parallelism of the vaginal slit with the plane of the pelvic brim was quite original; and in his description of the behaviour of the pubic section during pregnancy and parturition, he opened up a quite new and important field of study. The paper seemed specially valuable, moreover, in demonstrating afresh and irrefragably the importance of the integrity of the perineal body for the prevention of prolapsus uteri. So far as the case of prolapsus in a virgin, related by Dr Macdonald, went, it only showed how an excess of pressure from above might overcome the resistance offered by the normal perineum; and as there were congenital anatomical conditions that predisposed to hernia, so there might be here peculiarities of conformation that predispose to displacements. But as regards the imaginary retentive power of the abdomen, with which Dr Macdonald was disposed to deal so tenderly, he (Dr Simpson) had no difficulty in relegating it to the limbo of unfounded fallacies which explain nothing and are themselves inexplicable. In the kind of case to which Dr Underhill referred, it was well that he did not expressly call in the aid of this fanciful negation; for in most cases there will usually come into play some other elements in bringing about the descent of which an inefficiency of the perineum is the commonest initial factor. The influence, *e.g.*, of the round and broad ligaments, which he thought had been rather undervalued by Dr Hart, had to be taken into account. That even a pretty deep laceration of the perineum is not immediately followed by descent of the uterus, we can easily understand. In a young otherwise healthy woman the vaginal walls will be sufficiently dry to keep the anterior and posterior walls in close apposition. But let that patient become the subject of a leucorrhœal discharge, and the front wall will get a tendency to slide further and further down off the posterior fragment. Or, as has been specially insisted on by Dr Protheroe Smith, the woman in following her avocation may be obliged to keep the plane of the pelvic brim more nearly parallel with the horizon, so that the weight of the superincumbent viscera begins to press more directly on the pelvic floor. There were some positions taken up in the paper which he (Dr Simpson) thought open to question. The relative thickness of the anterior and posterior walls of the uterus represented in Braune's plate may be accidental; and he (Dr Simpson) could not help thinking that even in that plate the posterior lip of the os had been drawn as far if not as high up as the anterior. Dr Hart had shown his ability to work out some debatable points in anatomy, and he (Dr Simpson) hoped that this was only the first of many essays with which he would enrich the coming volumes of our *Transactions*.

Dr Hart, in reply, thanked the Society for the kind reception they had given his paper. His object had been to bring forward facts, and to avoid theory. It was but just to explain that he got the first hint as to the alterations in the anterior or pubic triangle from Professor Simpson. In regard to the theory of the retentive power of the abdomen, he could only say that, as yet, he considered no real facts had been brought forward in its support.

THE BOSTON SOCIETY FOR MEDICAL OBSERVATION

Part Fourth.

PERISCOPE.

MONTHLY REPORT OF THE PROGRESS OF THERAPEUTICS.

By William Craig, M.D., F.R.S.E., Lecturer on Materia Medica, Edinburgh School of Medicine, etc., etc.

The Croton-oil Treatment of Nævus.—An instance of this is given by Dr W. F. Sigler, in the *Michigan Medical News.* He writes: The tumour was situated in the centre of the left cheek, and in size about as large as a dime. I procured a cork the size of the tumour, into which I inserted several fine needles, letting the points project one-eighth of an inch. I then immersed the points of the needles in pure croton-oil and plunged them into the tumour. A little swelling followed, and several besides formed soon after. The second day a crust formed over the whole tumour. This was repeated three times at intervals of five days, and no other treatment was required.—*The Philadelphia Medical and Surgical Reporter*, 8th February 1879.

The Action of Large Doses of Capsicum.—The *Archiv für Pathologie* gives some researches of Hogyes, showing that the action of capsicum in considerable doses is less poisonous than some authorities have asserted. It has been said to cause, when applied to the skin, redness, vesication, and ulceration; and when taken by the mouth, vomiting, inflammation, and painful diarrhœa. Landerer and Tresch assert that its active principle is capable of causing death. Hogyes, however, found little evidence of action, except upon the sensory nerves, with more or less reflex hyperæmia of transient duration, and no permanent anatomical change. It increases the secretion of saliva and of the gastric juice, and favours the peristaltic action of the intestines, and so promotes digestion. Fifty grammes of powdered capsicum caused a dog to vomit twice, perhaps on account of the bulk of the dose, but it was quickly better. The same dog did not vomit after two cubic centimetres of capsicol, corresponding to two hundred grammes of the powder. Capsicol bites the tongue sharply, but applied to the conjunctiva causes only a trifling redness. It was once thought that capsicum might furnish a substitute for quinine, because brandy, to which it has been added, is a reputed prophylactic against intermittent fever. The results of experiment do not, however, warrant any expectation of an anti-febrile action.—*The Philadelphia Medical and Surgical Reporter*, 8th February 1879.

A New Saline Purgative.—M. Rabateau announced some experiments he had made relative to the physiological action of the sulphomethylate or methysulphate of sodium. It is a colourless salt, crystallizing with difficulty, without any disagreeable taste. M. Rabateau first injected in the veins of a dog a solution of 10 grammes in twenty-five grammes of water without producing any diarrhœic phenomena. Later he administered to a patient in the Hôtel Dieu a dose of fifteen grammes in two glasses of water; the woman had abundant stools.—*The Medical Press and Circular*, 9th April 1879.

THE TREATMENT OF DYSENTERY WITH SALINE PURGATIVES.—Dr Liddell shows, both from his own experience and that of others, that saline purgatives are of great value when judiciously employed in the treatment of dysentery. The treatment consists in the administration of cream of tartar, soluble tartar, Rochelle salts, citrate of magnesia, mineral waters having cathartic properties, and Seidlitz powders, and various other saline cathartics in purging doses. The plan of treatment proved most effectual in cases of bilious dysentery, and in cases where the inflammation of the colon was complicated with malarial fever. In such cases the cream of tartar was given in doses of three and four drachms every three or four hours, until large watery motions tinged with bile were produced; and the relief as to all the distressing and dangerous symptoms produced thereby was usually something wonderful. The good results of this treatment are perhaps due to the fact, that the large watery evacuations from the bowels greatly diminished the volume of blood in the portal vein and its tributaries, and in the organs drained by them, *e.g.*, the stomach, liver, spleen, pancreas, intestines, thereby lessening the congestion or stasis of the blood in these organs and parts in a corresponding degree, on the one hand; and to another fact, that these large serous motions washed off the acid slime and the scybalous and putrid fæces from the inflamed surface of the bowel, placing it thereby in a condition comparatively free from irritation, and in a state the most favourable for recovery. The cases of dysentery which especially demand the exhibition of saline purgatives are—(1.) Those in which the bowels are habitually constipated, for example females and people of sedentary habits, for such cases are generally burdened with intestinal obstructions, which can be got rid of only by repeated doses of purgative medicine; (2.) Cases of bilious dysentery; (3.) Cases where portal congestion is present; (4.) Cases complicated with malarial fever, or with malarial intoxication and ague-cake; and (5.) Cases of chronic dysentery. In all cases the doses should be repeated until bilious and feculent matter appears in the stools (*The American Journal of Medical Science*, January 1879).—*The Practitioner*, April 1879.

SALICYLIC ACID ENEMATA IN DYSENTERY.—Dr Berthold employs an enema consisting of one gramme of salicylic acid, 300 grammes of distilled water, and alcohol, *q.s.* In dysentery, with tenesmus and bloody stools, he administers it every four hours. The tenesmus diminishes, and the number of the stools is rapidly reduced, the fæcal matters gradually acquiring their normal appearance, the temperature diminishing, and the appetite returning.—*Philadelphia Medical and Surgical Reporter,* 15th March 1879.

CHROMIC ACID AND THE CHROMATES.—In an inaugural thesis upon chromic acid and the chromates, studied from a general standpoint, Dr Rousseau devotes a long chapter to the therapeutic action of chromic acid in some affections of the mouth. He first demonstrates the perfect harmlessness of its use when chemically pure, and he does not hesitate to attribute to the presence of sulphuric or arsensious acid those accidents which it sometimes occasions. In these cases the failure is due solely to the method of preparation. The only inconvenience which attends its use is, that in prolonged doses it causes a slight yellow tinge, which remains for a considerable period, to appear on the crown of the teeth. Dr Rousseau dwells upon the utility and efficacy of chromic acid administered in periodic doses in various forms of chronic, fungous, and ulcerated inflammations of the gums, in which it appears to act most beneficially. Dr Magitot also considers that it is valuable in cases of dentary alveolar osteo-periostitis; he has failed, however, to record any cases of its failure, though he has published his successful results. Several other practitioners, however, who have made use of this remedy, have failed to obtain any results, nor is this surprising when it is considered how various are the causes which may give rise to this disease, and under what different aspects it makes its appearance. Thus, to mention but one of its causes, the presence of tartaric acid plays a great part in its production, and the treatment in this case would, of course, consist in simply removing the substance which sometimes covers the tooth to the centre of its root (*Le Progrès Médical,* 1st March 1879).—*The Practitioner,* April 1879.

REMEDY FOR HICCUP.—Dr Grellety (*Lyon Med.* No. 51) has observed that hiccup in children was immediately stopped by giving them a lump of sugar saturated with table vinegar. The same remedy was tried on adults with similar instantaneous success. —*Philadelphia Medical and Surgical Reporter,* 15th March 1879.

TURPENTINE IN HOOPING-COUGH.—(*Weiner Allcgem. Med. Zeit.,* No. 12, 1878.)—Dr Gerth cured a case of laryngeal catarrh by placing twenty drops of turpentine on a handkerchief held before the face, and causing about forty deep inspirations to be taken. Repeating this thrice daily, the cure was quite rapid. In the same family he found an infant, fifteen months old, in the convulsive stage of hooping-cough, quite exhausted, and vomiting all ingesta. There was at the same time slight bronchial catarrh, with slight evening rise of temperature. Gerth decided to experiment here also with turpentine. He directed the mother to hold the moistened cloth as above before it when awake, and to drop the oil upon its pillow when asleep. The result was most happy.

Within the twenty-four hours the frequency and severity of the attacks notably diminished. The child's strength was sustained by stimulants, and improvement was very rapid. Within a year pertussis became epidemic in his vicinity, and he repeatedly tested the drug in this way. He gave it to children of all ages, and in any stage of fever. The initial catarrh, the convulsive and the final catarrhal stages, were all decidedly benefited, the spasmodic attacks being in many cases aborted.—*Chicago Medical Journal and Examiner*, March 1879.

Oil of Rosemary.—Köhler and Schreiber.—(*Centralbl. Med. Wiss.*, No. 23, 1878.)—These writers have investigated the physiological action of this drug. They find its chief action to be upon the cerebro-spinal nerve centres. The blood pressure fails owing to paralysis of vaso-motor centres in the medulla, but the heart is unaffected, and if the drug is pushed to its utmost, there is only retardation of the pulse, while the respiratory centre is at last paralyzed. Small doses increase, and large doses diminish, reflex excitability; repeated hypodermic injections of small amounts have the latter effect. Large doses antagonize the irritability of strychnia poisoning. But its most important action is on temperature, though for this purpose it must be inhaled in a vaporized form, and not given by the stomach. By the former method temperature may be reduced 8°, while by the latter it cannot be lowered more than 2° Centigrade. These experiments were made in rabbits and other animals. The writers do not find that on rabbits it has any abortive action. It may excite peristalsis, and so produce slight diarrhœa. It seems also to have diuretic properties, and the urine passed after its injection has a violaceous odour. Neither muscular irritability nor the size of the pupil are affected by its use. If its antipyretic effects are certain, and do not differ whether a human subject be the object of experiment or a rabbit, a most valuable remedy can be added to our armamentarium.—*Chicago Medical Journal and Examiner*, March 1879.

Chloral in Migraine.—Dr Seure, in the *Bull. de Thérapeutique*, strongly recommends the administration of chloral in an enema, on the occurrence of the paroxysms of migraine, having found it almost infallible, and exempt from the disadvantages attendant on other modes of giving this substance, and far preferable to the employment of morphia, quinine, etc., for the same purpose. He gives, according to the sex or robustness of the patient, from one and a half to three grammes in a glass of tepid water, the effect of the chloral being rendered still more prompt by the addition of a tablespoonful of brandy. If a sense of burning in the rectum is excited, this may be prevented by adding the yolk of an egg, or substituting tepid milk for the water. When, as in some persons, there is difficulty in retaining the enema, the quantity of the liquid may be diminished, and a drop or two of laudanum added.—*Medical Press and Circular*, 19th March 1879.

OXYGEN IN ALBUMINURIA.—At a meeting of the Therapeutical Society of Paris, Dr Dujardin Beaumetz related a case which had reached its last stage, all means having been tried in vain, when the respiration of oxygen was had recourse to. The albumen disappeared completely during the first twenty-four hours of its employment; and although this disappearance will probably prove only temporary, twelve days have passed without any return. Dr Constantin Paul replied that he had published two analogous cases, in which, under the use of oxygen, the albumen disappeared, but in two months it returned as bad as ever. Similar cases have since been published, and the most that can be hoped for from this means is a comparatively long remission.—*Philadelphia Medical and Surgical Reporter,* 15th March 1879.

EUCALYPTUS IN A COLD IN THE HEAD.—Professor Stambio, in a note in the *Gaz. Med. Ital. Lombard.,* 11th January, says that, notwithstanding the failure of all the remedies hitherto recommended for the immediate cure of a cold, he wishes to communicate to the profession the great success he has found attending a new one in his own person, and to ask them to test its efficacy. He found prolonged mastication and swallowing of a dried leaf or two of the *Eucalyptus globulus* almost immediately liberated him from all the effects of a severe cold.—*Philadelphia Medical and Surgical Reporter,* 15th March 1879.

AURAL PERISCOPE.

By J. J. KIRK DUNCANSON, M.D., C.M., F.R.C.P., and F.R.S., Edinburgh, Surgeon to the Ear Dispensary, 6 Cambridge Street, Lothian Road; Assist.-Surgeon, Eye Infirmary; Lecturer on Diseases of the Ear, Edinburgh School of Medicine.

MR PEERCE and Mr Stroh, who have been working for the past twelve months upon the acoustic properties of the phonograph, have completed their labours, as far as the vowel sounds are concerned, and their paper on the synthetic examination of these sounds will be read before the Royal Society probably on the 27th inst. Several new instruments of great novelty and marvellous ingenuity will be exhibited, including a new phonautograph, an automatic phonograph, a compound curve-tracer, a new syren, and a new musical instrument.—*Nature,* 20th February 1879, page 374.

A simple and convenient way of demonstrating the vibratory movements of chords is described by M. Schwedoff in a recent number of the *Journal de Physique.* The stationary waves of the chord are produced by means of an electric trembler (like that used for bells), the chord being attached at one end to the soft iron palette, and caused to vibrate transversely. The other end of the chord is attached to a stretcher for varying the tension. A movable runner allows of varying the length of the vibrating portion. A blackened board with figures on it is supported behind the chord.—*Nature*, 27th February 1879, page 396.

American Journal of Science and Arts, February.—We have here two interesting papers on acoustics. Mr Jacques has inquired into the velocity of loud sounds, measuring the velocity at different short distances from a cannon by means of a series of membranes electrically connected with a chronograph. He finds that the velocity of sound is a function of its intensity, and that experiments in which a cannon is used contain an error, probably due to the bodily motion of the air near the cannon. Immediately in the rear of the cannon the velocity was less than at a distance, but, going from the cannon, the velocity rose to a maximum considerably above the ordinary velocity, and then fell gradually to the rate usually received. When the cannon was pointed at right angles to its first position, the maximum velocity came nearer it, and had the cannon been pointed towards the membranes, the retardation would probably have become an acceleration. Dr Ihlseng has measured the velocity of sound in wood both by Kundt's method and the graphic method, in which latter a blackened glass plate was drawn rapidly in a horizontal direction (across the direction of the rod's length) by a falling weight, and a pen attached to the rod wrote its vibration on the plate, which also registered those of a tuning-fork. This method was found one of considerable accuracy. Its results were slightly below those by Kundt's method, and (when the plate was moved in a different direction) it demonstrated the existence of transverse along with longitudinal, and gave their ratios.—*Nature*, 27th February 1879, page 400.

PREVENTABLE BLINDNESS.—We lately (*27th December* 1878) drew attention to what we regarded as a serious defect in the curricula of our licensing bodies, in the ignoring of ophthalmic surgery as a distinct and compulsory subject. It is much to be regretted that there are no statistics to enable us to judge accurately of the relative frequency of different causes of blindness, and what proportion of blind people might now be seeing had the disease which gave rise to their misfortune received skilful treatment at the time. Yet, that the latter is true to a very large extent, must suggest itself to every one who looks into the matter. The fact, referred to in a valuable paper lately read at the Society of Arts, that the proportion of blind people is higher in agricultural than in urban districts, can hardly be explained otherwise than by the belief that professional aid, within reach of eye-patients in the former districts, is not as skilled to contend with these maladies as it might be; although we are bound to say the author did not offer any such explanation. The same writer mentioned also some investigations he had made in blind asylums, to ascertain the frequency of preventable causes of blindness. These investigations are meagre, as needs must be; but they would indicate, so far as they go, that nearly one-half of the cases of blindness depend upon preventable causes. That would mean, if students were obliged to study diseases of the eye, and to obtain a passing mark in ophthalmic surgery for their surgical diplomas, the number of blind in the land would be reduced by nearly one-half. At the same meeting it was observed, that "it was lamentable so much blindness should be caused in such a manner; but, in another sense, it is highly satisfactory, because although what is past is irremediable, the future is in our own hands, and it is of great importance that this point should be brought in some prominent manner before the medical profession and officers of health." We cordially agree with this, although we would probably seek the root of the evil from a somewhat different point of view than the distinguished speaker supposes. Why in these days such an organ as the eye should be left outside the pale of medical study is inexplicable. No effort is being spared to cultivate preventive medicine, in order to reduce our mortality, and to make life happier; and yet we give our licenses to practise to candidates whom we must know to be ignorant of the diseases of an organ, the loss of which makes life a blank.—*The British Medical Journal*, 1st March 1879, page 323.

Royal Society, London, 30*th Jan.*—"On the Determination of the Rate of Vibration of Tuning Forks," by Herbert M'Leod, F.C.S., and George Sydenham Clarke, Lieut. R.E. Communicated by Lord Rayleigh, F.R.S. The paper contains a description of some experiments made with a view to determine the absolute pitch of tuning-forks by means of a method proposed by the writers in a previous paper (*Proc. Roy. Soc.*, 1877, XXVI. 162). It commences with a description of the time-measurer adopted, consisting of a compensated pendulum, worked by electricity, the impulse being given by a driver depending for its action on gravity alone. The pendulum is arranged to give second contacts, driving a clock-wheel with sixty teeth. This wheel has a platinum pin giving minute contacts, but it is used merely as a switch, the circuit being closed by the pendulum itself. The current works a relay, and closes the circuit required. The tuning-fork apparatus consists of a brass drum resting on friction-wheels, and driven by a weight and train. Uniformity of motion being of great importance, an air-regulator, consisting of a fan enclosed in the lower compartment of a cylindrical box, is employed. By means of a diaphragm and vanes the fan can be made to do more or less work by pumping air from the lower into the upper compartment. The fan spindle carries a pulley driven by a thread passing round the drum. Round one end of the drum are wrapped strips of paper on which white equidistant lines have been so ruled that they are parallel to the axis of the drum when the strips are in position. The strip most frequently used has 486 lines round the complete circumference of the drum. Opposite this graduated strip is placed a microscope with its axis horizontal. In the substage is placed a 2″ objective, producing an image of the graduations at the focus of the object-glass of the instrument. At the common focus of the two lenses is placed the tuning-fork, the stem of which is held vertical in a vice. The fork is partially enclosed in a glass case, and is so adjusted that the image of one of its limbs seems to cut the image of the graduations at right angles. The fork is set in motion by a suspended double-bass bow. If, when the fork is in vibration, the drum is made to rotate with such a velocity that one of the graduations passes over the interval between two adjacent graduations in the time of one vibration of the fork, a stationary wave is seen of length equal to the length of that interval. To determine the number of vibrations of the fork in a given time, it is only necessary, therefore, to be able to count the number of graduations which pass in that period. As a perfectly uniform rotation has not been obtained, a regulator under the control of the operator is employed. This consists merely of a piece of string which passes round the axis of the drum, and also round a pulley which can be turned by the operator's left hand. An upward or downward motion of the wave denotes that the drum is going too fast or too slow, and by means of the pulley a gentle check or acceleration sufficient to keep the wave steady is given to the drum. An electric counter gives the number of complete revolutions accomplished by the drum in any given period, and a fine pointed tube, containing magenta, is carried by a saddle above the drum, and being actuated by an electro-magnet, makes a dot on a piece of white paper wrapped round the drum at the beginning and end of the experiment. The distance apart of these dots gives the additional fraction of a revolution accomplished by the drum during the period of the experiment. Electric circuits are so arranged that a reverser turned a few seconds before the minute at which it is intended to begin the experiment, causes a current to be sent exactly at that minute by the clock relay, which starts the electric counter, and also makes a dot on the drum. Just before the expiration of the last minute of the experiment the reverser is turned in the opposite direction, and at the expiration of that minute the counter is stopped, and a second mark made on the drum. Some of the results obtained with different forks are given. The results of further experiments made to determine the effect of temperature, of continuous and intermittent bowing, and of the mode of fixing the fork, are appended. An optical method by which two slightly dissonant forks may be compared without altering the period of either, is described. Figures and diagrams fully explaining the apparatus employed accompany the paper.

13*th February.*—"Note on the Development of the Olfactory Nerve and Olfactory Organ of Vertebrates." By A. Milnes Marshall, M.A., D.Sc., Fellow of St John's College, Cambridge. Communicated by W. S. Savory, F.R.S., Surgeon to, and Lecturer on Surgery at, St Bartholomew's Hospital. In the course of an investigation into the development of the cranial nerves of the chick, certain facts came to light indicating that the olfactory nerve, instead of being, as usually described, a structure differing totally in its mode of origin from all the other nerves in the body, in reality, "exactly corresponds in mode of development with the other cranial nerves, and with the posterior roots of the spinal nerves."[1] The present paper contains the results of further investigations on this point; it deals also with some features in the development of the vertebrate olfactory organ, and with certain questions of a more general nature affected by the conclusions arrived at.

THE DEVELOPMENT OF THE OLFACTORY NERVE.—The olfactory nerve of an adult vertebrate is usually described as consisting of three parts: a proximal *tractus olfactorius*, an intermediate *bulbus olfactorius*, and a distal *nervus olfactorius*, connecting the bulb with the olfactory organ. Of these parts the two former are commonly said to arise as a hollow diverticulum of the cerebral hemisphere—the so-called olfactory vesicle or olfactory lobe. The third part, the *nervus olfactorius*, is described as arising at a later stage, either from the olfactory lobe, from the olfactory organ, or from the intervening mesoblast. In consequence of these peculiarities in its mode of development, the olfactory nerve is said not to bear the slightest resemblance to the other cranial nerves, and to be in no way comparable with them. Dr Marshall, however, finds from an examination of a large number of vertebrate embryos—chick, dog-fish, salmon, trout, axolotl, frog, and lizard—that the *nervus olfactorius* is the first part to be developed; that it arises at the same time as the other cranial nerves, and in the same manner; that it appears before the cerebral hemispheres, and consequently arises from the original fore-brain. He finds, further, that there is no trace whatever of an olfactory vesicle in the chick till the end of the seventh day, or in the dog-fish till stage O of Balfour's nomenclature; in the salmon and trout there is no trace of an olfactory vesicle up to the time of hatching, nor, indeed, for some time afterwards.

Mr Marshall maintains that the olfactory vesicle must, therefore, be regarded as a structure of merely secondary importance; and that the olfactory nerves, since in their early stage they do not differ embryologically in any respect from the segmental cranial nerves, must be regarded as the first or most anterior pair of true segmental nerves.

THE DEVELOPMENT OF THE OLFACTORY ORGAN.—This will, in the absence of figure, be treated very briefly, those points only being noticed which are of special interest in connexion with the conclusions arrived at in the preceding part of the paper. The olfactory pits appear at almost the same time as the visceral clefts;

---

[1] *Proc. Roy. Soc.*, 8th March 1877, p. 50, and *Quarterly Journal of Microscopical Science*, January 1878, pp. 17-23.

or, to speak more accurately, they first become conspicuous objects at, or very shortly after, the time when the anterior visceral clefts become open to the exterior. This occurs about stage K in the dog-fish, and about the fiftieth hour in the chick. In their early stages the olfactory pits present a striking resemblance to the visceral clefts in position, shape, size, and general relations; their external apertures elongate and become slit-like, and the direction of the slit, like that of the visceral clefts, is at right angles to the longitudinal axis of the head. These facts are best illustrated by the study of whole embryos, and of longitudinal vertical sections.[1] They come out with great clearness in all the types of vertebrates examined, but with especial distinctness in the axolotl and salmon. The development of the Schneiderian folds present several points of great interest, which can be most favourably studied in the elasmo branches. Attention has already been directed by Balfour[2] to the very early appearance of these folds. The important point, so far as the present question is concerned, is that these Schneiderian folds appear at the same time as, or very shortly after, the first rudiments of the gills. In addition to this identity in time, there is also identity in structure; in both cases development consists in the formation of a series of equal, closely apposed folds, mainly epithelial, but involving the under-lying mesoblast to a certain extent. These folds are in the two cases—gills and Schneiderian folds—of the same width, the same distance apart, have epithelium of the same thickness and same histological character, involve the mesoblast to exactly the same extent, and in exactly the same manner; in a word, are structurally identical.

In the later stages the Schneiderian folds, like the gills, receive a very abundant supply of bloodvessels; and the relations of these vessels to the folds, which are very peculiar and characteristic, are identical in the two cases. Even in the adult elasmo branch there is a remarkable histological resemblance between the gills and the nose. The facts above recorded concerning the development of the olfactory nerve and olfactory organ point towards the same conclusions as to the morphology of these structures, viz., that the olfactory organ is a visceral cleft; that the olfactory nerve is the segmental nerve, supplying that cleft in a manner precisely similar to that in which the hinder clefts are supplied by their respective nerves; and that the Schneiderian folds are gills.[3]

These conclusions, if accepted, will considerably simplify our conceptions of the segmentation of the vertebrate head. As there are no nerves or clefts in front of the olfactory segment, the olfactory nerve must be taken as the most anterior nerve, and the

---

[1] For figures of whole embryos illustrating the points referred to, *vide* Parker, "On the Structure and Development of the Skull in Sharks and Skates," *Trans. Zool. Soc.*, vol. x. part iv. 1878, pl. 35, fig. i.; pl. 39, figs. 1 and 2; pl. 40, fig. i.; and Balfour, *op. cit.*, pl. 7, stage L.

[2] *Op. cit.*, p. 184, and pl. 44, fig. 14.

[3] *Cf.* Dohrn, *Ursprung der Wirbelthiere*, p. 23.

nose as the most anterior cleft. The next cleft is that in front of the maxillo-palatine arch, of which a part probably persists in the adult as the lachrymal duct: the segmental nerve corresponding to this cleft is the *third* or oculomotor nerve. Next comes the mouth cleft, supplied by the *fifth* or trigeminal nerve; and then, in succession, the clefts supplied by the facial, glossopharyngeal, and pneumogastric nerves. This view of the constitution of the vertebrate head is found to accord well with the later researches of Professor Parker on the morphology of the skeletal elements of the head. Some at least of the labial cartilages will probably prove, on this view, to be homologues of the extrabranchials, a comparison that has already been made by Professor Parker.[1] If the olfactory organs are visceral clefts, they must originally have communicated with the mouth cavity. Indications of a former connexion of this kind are by no means wanting; thus in salmon embryos the alimentary canal extends forwards, so as to underlie the nasal sacs; as development proceeds this anterior prolongation of the mouth cavity gradually shrinks; it persists for a short time as a pair of cæcal diverticula, which ultimately disappear altogether. In conclusion, it may be noted that the Schneiderian folds afford an instance, on the theory here maintained, of structures originally hypoblastic in nature becoming, from changed circumstances, epiblastic.—*Nature*, 27th Feb. 1879, pp. 401, 402.

Part Fifth.

THE BOSTON SOCIETY FOR MEDICAL OBSERVATION

MEDICAL NEWS.

Dr Politzer's Text-Book of Aural Surgery.—Dr Cassells (of Glasgow) has undertaken the translation of Professor Politzer's "Lehrbuch Der Ohrenheilkunde" at the author's request, and in fulfilment of a promise made to Professor Politzer more than five years ago. The translation of the first volume into English is well advanced. It is intended to publish the English translation of both volumes of the German edition in one handsome and handy-sized volume, simultaneously with the issue in the coming autumn of the second volume of the original work, early sheets of this volume being forwarded for that purpose to Dr Cassells. The English translation will be revised by Professor Politzer, and it will be illustrated with the original woodcuts.

---

[1] *Proc. Zool. Soc.*, vol. x. part iv. 1878, p. 212.

OPENING OF THE NEW HERTFORD BRITISH HOSPITAL, RUE DE VILLIERS, PARIS.—In our Number for October 1877 we gave a pretty full account of the proceedings which took place at the laying of the foundation stone of the Hertford British Hospital, on the 24th August 1877 by Sir Richard Wallace, its founder, and Lady Wallace. We have now to record that on the 16th April 1879 the opening for the reception of patients of this beautiful building was formally inaugurated by a visit from Lord Lyons, the British Ambassador at Paris. His Excellency was received at the principal entrance by Sir Richard and Lady Wallace, Sir John Rose Cormack, and the Hon. Alan P. Herbert (physicians to the Hospital), Miss Smith (lady superintendent), together with other members of the staff A number of French and English ladies and gentlemen, present by invitation of Sir Richard and Lady Wallace, accompanied Lord Lyons in making an inspection of the various parts of the Hospital. His Excellency expressed surprise and admiration at the magnificence of the building and its excellent adaptation for its destined purposes. The architectural beauty of the structure externally and internally, and its suitability, were the theme of universal admiration. The number of beds is thirty; a larger number could be installed, should they be required. Medical and surgical patients of both sexes and of any age, being British subjects, are admissible to the new hospital, as they were to the temporary premises in which the institution has been maintained since the war of 1871 and 1872, during which it was first opened by Sir Richard. The cost of the new building, the land, and the furniture, is not less than one million francs (£40,000). The medical, surgical, and hygienical arrangements and appliances have been carried out regardless of expense. There is a complete service of baths and douches for out-patients as well as for resident patients; for each sex, there is a large garden; there are four of M'Ilroy's very useful fracture-beds provided with M'Ilroy's ingenious apparatus for various purposes, such as the extension treatment in fracture of the femur and the elevation of the patient when the bedding is being changed. There is a very nice operation-room, and (adjoining the mortuary) there is a room fitted-up for autopsies.

In concluding a short address to Lord Lyons (descriptive of the origin, objects, and past working of the institution), Sir Richard Wallace said—"Contemplating the great success and usefulness of this hospital under the guidance and devoted services of the two physicians, my good friends, Sir John Rose Cormack and the Honourable Alan Herbert, aided by the hearty and able co-operation of the entire staff, I look forward hopefully to the future. To perpetuate the institution on a solid basis, I am now taking the measures necessary for its endowment."

The Hertford British Hospital is situated in the district of suburban Paris called Levallois-Perret. Poor persons of respectable character, being British subjects, or who were British subjects till they lost their nationality by marriage, are admissible. Advice and medicine are given on Mondays and Fridays at 10 A.M. to about 25, 30, or more out-patients, as much care as possible being taken not to receive applicants who can afford to pay. The selection of resident and non-resident patients is confided solely to the two physicians, each of whom takes the entire service of resident and non-resident patients for a period of four months in succession. He visits the patients every morning. On Wednesdays, from 2 to 4, the Hospital is shown to the bearers of orders of admission granted by Sir Richard Wallace, the physicians, or the other members of the managing committee.

EUCALYPTUS VEGETATION.—On the continent of Europe the arborial, health-producing, and medicinal products of the *Eucalyptus globulus*, or blue gum tree, have been so much enlarged upon, in consequence of having only this species in cultivation, that the whole of the Eucalyptus products have been classified as emanating from this one species; it is necessary, therefore, to point out that such is not the case.

Chemical and pharmaceutical preparations obtained from the Eucalyptus and other indigenous vegetation, prepared and exhibited by Joseph Bosisto, Richmond, Melbourne, President of the Pharmaceutical Society of Victoria, by whom the Eucalyptus preparations were first introduced both in Australia and in Europe:—

Essential oil, *Eucalyptus globulus* (blue gum). Tonic, stimulant, antiseptic, and anthelmintic. A small dose promotes appetite, a large one destroys it. In stronger doses of ten to twenty minims it first accelerates the pulse, produces pleasant general excitement (shown by irresistible desire for moving about), and a feeling of buoyancy and strength. Intoxicating in very large doses, but, unlike alcohol or opium, the effects are not followed by torpor, but produce a general calmness and soothing sleep. A strong cup of coffee will at once remove any unpleasantness arising from an over-dose. Anthelmintic—by enema, thirty to sixty minims in mucilage of starch. Internally—dose, three to five minims in gum mucilage, syrup, or glycerine.

Eucalyptol, *Eucalyptus globulus* (blue gum). For inhalation in bronchial and throat affections. Obtained from the essential oil, and is a homologue of camphor. Quantity employed—from half to one teaspoonful, with half a pint of hot water in the inhaler.

Eucalyptic acid, ordinary strength, *Eucalyptus globulus* (blue gum); Eucalyptic acid concentrated. Volatile, obtainable by fractional distillation, most abundant in the red and blue gum species.

Liquor Eucalypti globuli, *Eucalyptus globulus* (blue gum). Antiperiodic. The tonic or bitter principle obtained from the leaves of the tree in an amorphous condition. An ague remedy. It appears to counteract malaria without exerting the prejudicial effects of quinine on the nervous system. For ague and dengue fever, thirty to sixty minims in half a wineglassful of mucilage and water, or glycerine and water, with the occasional addition of two minims of Eucalyptol every two or three hours during the paroxysms of ague. As a general tonic, twenty to thirty minims three times a day. Incompatibles—the mineral salts.

Tinct. Eucalypti globuli. Stimulant, tonic, antiperiodic, and antiseptic. Dose, twenty to thirty minims.

Pulv. Eucalyptus globulus folia. Antiseptic, cataplasma.

Cigarettes, *Eucalyptus globulus* (blue gum). Disinfectant, employed in bronchial and asthmatic affections.

Essential oil, *Eucalyptus amygdalina odorata* (peppermint gum). Rubefacient and disinfectant. This oil is generally known as the "Eucalyptus oil," employed externally in rheumatic affections, and in the manufactories chiefly for perfumery, soaps, etc. An excellent and very agreeable disinfectant if mixed with sawdust in the proportion of four ounces of oil to the bushel.

Ointment of *Eucalyptus odorata.* Employed in fœtid suppurations and indolent wounds.

Red gum (from *Eucalyptus rostrata* of Victoria). The delicate mucilaginous astringent possessed by this species of the Eucalypti renders it more effective than the *Acacia catechu* in all cases of dysentery, diarrhœa, and throat affections. Generally employed in the form of a syrup (*Reports of the Philadelphia International Exhibition of* 1876, vol. ii.; *Education Department, London*, 1877, pp. 344, 345).—*Extracted by J. J. Kirk Duncanson.*

THE very interesting experiments of Kingzett have proved that, under the influence of air and moisture, both peroxide of hydrogen and camphoric acid are formed from volatile oils, the former a powerful disinfectant, and the latter an antiseptic; and hence there can now be no doubt that the healthy influence of Eucalyptus trees is, to some extent at least, and probably more than we imagine, due to the volatile emanations from the leaves under the influence of air and moisture, possessing direct disinfectant and antiseptic properties, and thus destroying the injurious effects of paludal miasms. Another circumstance which has an important bearing upon the antiseptic properties of the leaves of Eucalyptus is that the *eucalyptol* of Cloez, the chief constituent of the volatile oil contained in the leaves, has been recently proved to possess great antiseptic properties. . . . It is stated that a moderate-sized Eucalyptus tree absorbs as much as ten times its weight of water from the soil; and hence, allowing for exaggeration, the enormous suction power of large plantations of such trees may, in some degree, be judged of, so that when thickly planted in marshy places "the subsoil is drained in a little while as though by extensive piping." The preparations of Eucalyptus have also been used with success in other affections; and lately a new method of dressing wounds by using Eucalyptus leaves instead of lint has likewise been recommended. The leaves are simply laid on the wounds, and it is said that their balsamic nature not only cures but also removes all the unpleasant odour. It should be especially noticed that, in making preparations of Eucalyptus leaves, the narrow, somewhat sickle-shaped ones, which are obtained from the full-grown tree, should alone be used, as it has been proved that these are more efficacious than the broader leaves which are derived from the young plant. Another popular use to which this now celebrated plant has been lately applied is to suspend a branch over a restless sleeper, or to place some leaves under the pillow, when it is said to produce sleep. In consideration of the beauty of the different species, the proved influence of *Eucalyptus globulus* in destroying the pestilential character of marshy districts, and the numerous important economic and medicinal products which the *Eucalypti* yield, Professor Bentley regards the genus as one of the most important to man in the vegetable kingdom.—See *Pharmaceutical Journal*, 3d series, viii. pp. 865, 866, and *Year-Book of Pharmacy*, and *Transactions of the British Pharmaceutical Conference* at the fifteenth annual meeting, held in Dublin, August 1878, pp. 189–195. Lecture delivered before the Pharmaceutical Society by Professor Bentley.

THE LATE WILLIAM HOWITT.—A correspondent, writing to us from Rome regarding the late William Howitt, says—"One of the things which greatly interested Mr Howitt was the planting of the Eucalyptus tree in the neighbourhood of Rome. To him the monks of the abbey of the *Tre Fontane* owe the seeds which have produced such a goodly plantation, and have converted the monastery, once utterly uninhabitable in summer, into a comparatively healthy residence, where the monks can now live throughout the year."—*Scotsman*, Tuesday, March 11, 1879.

OBITUARY.

SURGEON-MAJOR JOSEPH DOUGALL, M.D., F.R.C.P.E., graduated at Edinburgh in 1858, and was appointed to the Madras Presidency of the Indian Medical Service on 10th February, 1859. During his studies he was class assistant to Professor Sanders, Mr Walker, and others, who bear testimony to his zeal and talents, and to his genial and obliging disposition. He was a clever draughtsman, and produced many fine diagrams for professional purposes. He acquired the art of short-hand writing and sedulously practised it all his life. He acted as Secretary to the Photographic Society, and became a proficient operator both in taking landscapes and portraits—twenty-seven of his Indian views being noticeable in the last Photographic Exhibition. He saw a great deal of hard professional work as assistant to his friend Dr John Burns of Glasgow, whose large practice afforded him much experience. In India he served with the artillery, and then for a short time at Singapore; from which place he was sent to the Chinese war of 1860, under Sir Hope Grant. He was in medical charge of the hospital-ship "Faiza-allum" for Fane's and Probyn's Horse, and was under fire with the artillery at the taking of the Taku forts, for which he received the Chinese war medal and clasp for Taku. He served with the artillery under Sir George Whitlock, 1861–1863, and was civil surgeon of Vizagapatam, 1864–5, where he had a very large practice. He successfully operated on a bad case of elephantiasis scroti, removing a tumour of 24 lbs. weight. This case soon brought six or seven more from various parts, all of which were successfully treated, while there had been only one or two cases operated on in the district for the previous decade. Photography here came to his aid, as often elsewhere, as he photographed every case before and after operating. Here he taught Nursing Rao, a highly educated native gentleman, the photographic art, which he has pursued successfully. Dr Dougall was Zillah surgeon at Rajahmundry, 1865–6, and in April 1866 he was selected by Government to undertake an investigation of the febrifuge properties of the cinchona alkaloids—cinchonia, quinidia, and cinchonidia—at some of the most malarious stations, a duty acknowledged by the Cinchona Commission to be "accompanied with some risk and very great discomfort." Dr Dougall was recommended by the principal Inspector-General as "an officer well suited for this duty, energetic and zealous, and willing to undertake it." This report gives the result of 108 cases, very carefully tabulated; and the comparative value of the three alkaloids. After six months' constant attendance on fever cases in the worst districts, he was himself laid down with it, where there was no white man to attend him, and the prospect from his sick-room window embraced a gibbet and a white officer's grave. In 1867 he accompanied the 38th M.N.I. from Cuddapah to Rangoon, and in June 1869 was sent to Mandalay to assume medical charge of the Political Agency at the Court of Burmah, at a very unsettled period, something like the present. He had interviews with the late king along with Colonel Sladen, both interesting and amusing, and he photographed the king's sons. He took two years' furlough in 1870, and so keen was his love for his profession, that instead of resting after eleven years' tropical service, he entered the Edinburgh University classes again, and graduated M.D. 1872, gaining a gold medal for his thesis—the report on the properties of the cinchona alkaloids already referred to—an abstract of which appeared in the *Edinburgh Medical Journal*, September 1873.

On his return to India he had charge of the 22d M.N.I. from Palamcottah to Hosungabad, on a thirty days' march by road and rail, without any serious sickness amongst 1500 souls, including followers, although dengue fever was prevalent on the route. He says, "Even while on the road we have not been without our domestic occurrences, as there have been four births—no deaths; and as for marriages I am unable to speak, as they are celebrated *sans cérémonie.*" In January 1873 he was appointed acting senior medical officer, Andaman and Nicobar Islands, a post of great importance and heavy work, there being over 10,000 convicts to look after. It was here he made his famous experiments in the treatment of leprosy with Gurjun oil with such marvellous results. This successful treatment was fully noticed by all the home and foreign medical journals, and Government ordered it to be tried over all India; but the results, so satisfactory at Port Blair and many other places, were only partially so in others, from the inability to get patients under complete control and management. Although he got no reward beyond the special thanks of Government, he had the satisfaction of knowing that hundreds of loathsome wretches, weary of life, were restored to comparative health and prolonged days. Dr Warburton Begbie took notice of Dr Dougall's discovery in his address to the British Medical Association in 1875.

In 1875 Dr Dougall left the Andamans and was for some time in military charge at Secunderabad. He took a few weeks' holidays, and travelled to Simla, to visit his friend General Donald Stewart, C.B. (now in command at Candahar), with whom he visited Delhi during the preparations for the reception of the Prince of Wales, and in this journey of 4000 miles he photographed some of the scenery of Northern India. In 1876 he was appointed by Lord Northbrook to the permanent charge of the Andamans in appreciation of his previous services there. Dr Dougall presented the University of Edinburgh with two skeletons of the Andamanese, a diminutive and little known race, and at the request of Sir Joseph Fayrer, C.S.I., he exerted himself to obtain similar specimens for the Hunterian Museum of the Royal College of Surgeons, London, which possessed nothing more than a skull or two of these people. That this was no easy task may be guessed from the fact, that the natives hide their dead in the bush, and the widows wear either the skull or lower jaw of their deceased husbands, so that it is extremely difficult to obtain a complete skeleton. He succeeded in sending altogether ten skeletons to London, for which he received the special official thanks of the College; and Professor Flower, F.R.S., has written a memoir on the osteology of this race, mainly founded on the specimens sent, which is almost ready for presentation to the Anthropological Institute for publication. Dr Dougall spent part of March 1873 on a scientific cruise amongst the Andaman and Nicobar Islands, in company with the Hon. A. O. Hume, Secretary to Government (Ornithologist), Dr Stoliczka (Palæontologist to the Geological Survey), Mr Ball (Geologist), and Mr Wood-Mason (Assistant Curator to the Indian Museum). They visited all the islands, and each followed his special study. Dr Dougall made an admirable collection of specimens illustrative of the conchology of India, which, along with a series of beautiful photographs of the shells and corals taken by him to a scale, is now in the possession of his brother. At the small island of Meroe (Nicobars), Dr Stoliczka very nearly lost his life, having got lost in almost impenetrable jungle, and was only recovered after many hours of immense effort in cutting through the dense vegetation of the island. He had fired his last shot, and was found faint and bleeding from his efforts to reach the shore. Dr Dougall furnished the first really good photographs of the natives of these two groups of islands. Being a total abstainer all his professional life from choice, but unpledged, he enjoyed remarkably good health, and though hard worked he made a point of playing lawn tennis twice or three times a week, both for health and pleasure. He lost his third officer, Dr Meredith, lately from typhoid, and as there were several other cases in a small community of Europeans, a committee of seven doctors was appointed to inquire into the cause of the outbreak. He was president of this committee, and very soon after he fell a victim to the disease himself. For three weeks the case seemed mild and hopeful, but congestion of the lungs supervened, and he was cut off in the prime of his life of usefulness and self-sacrifice, on the 9th February 1879, the very day he completed twenty years' service, and was entitled to retire on a well-earned pension. Professor Sanders says of him, "Even a stranger to him may appreciate his work and something of his worth, but only those who knew him personally can estimate the finer qualities of his character and the unselfish nobleness of his life."

Death of Professor Gubler of Paris.—The School of Medicine of Paris has lost by death from cancer of the stomach, on the 21st April, Adolphe Gubler, Professor of Materia Medica—a man renowned in science, but not an impressive lecturer. He was a copious and instructive author on many subjects in practical medicine; and his researches into the therapeutical action of various remedies are well known and generally appreciated. The deceased professor's real name was Goblet, and under that name he commenced his medical career. Two explanations are current as to the motive which actuated him in making this change. One is that he considered Goblet an undignified appellation for a man of science, and that a better name was obtained by changing the *o* into *u* and the *t* into *r*; the other is, that he assumed Gubler as his name that he might not be mistaken for a Monsieur Goblet, with whom he was desirous not to be confounded. Professor Gubler was born at Metz on 4th April 1821. In November last, when seated as one of the judges at a competitive examination for the *internat*, the deceased was suddenly seized with hematemesis. Six months later the autopsy disclosed the nature of the disease, of which that attack was one of the earliest symptoms. Trousseau, one of his predecessors in the chair of materia medica, also died of cancer of the stomach.

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION

Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Harveian Discourse, 14th April* 1879. By HENRY SCOTT ANDERSON, M.D., Selkirk.

PERMIT me, Gentlemen, in thanking the Committee of Management of this ancient Society who placed me in this chair as your President, to say how very unworthy I feel of the position, and how unable I am to fill the place, which has been so often and so lately filled by such distinguished men as Professor Turner of this city, Professor Harvey of Aberdeen, and others.

Gentlemen, I was pressed into the present position by the persuasive tongues of your excellent secretaries Dr Gillespie and Professor Sanders; and when I frankly told them that I could not get up a learned dissertation upon the illustrious Harvey, or the circulation of the blood, I was encouragingly told that the Society was probably tired of Harvey and the blood, and wanted something fresh from the country and border experience! And though I have attempted to put together some reminiscences of a forty-five years' country practice, its peculiarities and difficulties, and of some of the changes in practice which have taken place during that period, I regret to say that they are necessarily imperfect, as I had little or no time to take notes or keep a journal; for being launched at once after leaving college into a large and widely extended practice, where the distances were great, the modes of transit difficult, a doctor coming home from a forty-mile ride on horseback, with probably little or no sleep for many hours previous, was too tired to sit down and make notes of his cases and remarks thereon. Besides, at that time, country medical men had to compound and send out all their own medicines, and being "the young doctor" for a number of years I had most of that work; but I am happy to say that now in Selkirk, as in almost every town of considerable size, there is a druggist, which is a great improvement.

I was brought up and received the elements of my professional education in what I may well call a Doctor's House, for in it my grandfather, uncle, and father, had practised for nearly a century. It was the house which Scott, in his tale of the *Surgeon's*

Daughter, took as a prototype of the house of Gideon Gray, for Sir Walter passed it regularly on his way to and from Abbotsford, t the Court-house of Selkirk, to discharge his duties as sheriff of the county.

My grandfather and father were hardworking, kind-hearted men, and skilful practitioners; my father, with whom I was associated in practice for twenty years, was, as Dr John Brown well describes him in his *Horæ Subsecivæ*, a good specimen of our Gideon Grays, practising in a very wide district in one of the wildest parts of the south of Scotland. He was laborious to a degree; seldom off horseback by day and by night; and always ready for every call, for he made it a rule never to refuse to go to any case, whether there was a chance of payment or not; and I have often heard him say that he never regretted this. And I may take the liberty of saying even here, that he was equally respected by rich and poor; and after his death, the poor of Selkirk erected a handsome tomb to his memory, limiting the subscription to one shilling each, and the highest nobleman of the land called and said that he came as a mark of respect to our father's memory, not because of his attention to himself and his family, but for his unwearied kindness and attention to the poor. Gentlemen, in this house, also, Mungo Park, the African traveller, received the rudiments of his profession,—for Park was a doctor; and after returning from his first journey in Africa to his native land, he married Dr Anderson's daughter, and practised in Peebles for several years, where my father served his apprenticeship with him; and I have heard my father say, when the traveller came home from a ride in Tweedsmoor or Manor Water, that he would rather wander in the wilds and solitudes of Africa than be a country doctor in Peebles or Selkirkshire.

There is a story told of Mungo Park, when returning to Peebles after a professional journey in the upper districts of Yarrow and Meggat, that he lost his way about the head of Manor Water,—no pleasant occurrence, considering the moors and morasses around him,—and when at last he descried a light in the distance, and had made for the cottage from which the light emanated, on reaching the cottage he heard the sound of distress from within. Telling his story to the shepherd, who opened the door, he was kindly received and offered the best accommodation which the lonely shieling could supply. He then told who he was; and great was the joy and welcome, as the shepherd's wife was about to be confined of her first baby, and his professional services could be made available. In a short time, through his skill, the happy event was over; and having rested comfortably for the rest of the night, after an early breakfast he prepared to resume his journey. The shepherd was most profuse in his expressions of gratitude, when the traveller remarked, "Well, I have done you a good turn, so you must do me another, and go with me to the top of the hill and show me the road.' This was readily agreed to, and out they set. After proceeding a short distance the shepherd lagged behind, on which Park said, "You are the oddest guide I ever had. You should lead and allow me to follow." This had a temporary effect, but again and again he fell into the rear, and when once more rallied on the subject, an explanation was extorted from him, and he said, "To tell the truth, sir, ye cam' sae seasonably and unexpectedly to oor help last nicht, that I really believe you are an angel from heaven, and I am looking every moment to see you fly up." The traveller gave him his word that he would not fly up till he got to the top of the hill, if he would only take him there; somewhat reassured he went forward a little more freely, and in due time the top was reached. Park could then clearly discern his road, and straining his eyes for a moment, he said, "Is that a coach-and-four down in the valley? Will you go forward to that point of view and tell me what it is?" The shepherd started on his fool's errand, when Park mounted his horse and putting spurs to it quickly disappeared, leaving his simple and superstitious companion to return, doubtless in the belief that the pretended doctor had really taken his flight as an angel to heaven. Park, as I have said, was never contented at Peebles, and longed to go back to Africa; accordingly, though fast getting into a good practice, he gave it up, and returned to Africa, never to come back.

Mungo Park was accompanied on his second and fatal expedition by Dr Alexander Anderson, son of my grandfather, who died of fever early in their journey; and this Book of Psalms, with Watts' Hymns, which belonged to Dr Anderson, and which I have now the pleasure of showing to you, was found many years afterwards by one of the African travellers—*Landor*—in the wigwam of an African king, wrapped in yellow muslin, and hung up as a charm, because it belonged to "the good white man." It had previously been found in the boat in which Park was killed, soaked with the waters of the Niger. Landor brought it to London, and gave it to a literary friend, Mr Nuttland, who showed it to Hogg, the Ettrick Shepherd, when on a visit to London in 1832. Hogg having remarked how proud his friend, Dr Anderson of Selkirk would be to possess it, the gentleman at once gave it to the Shepherd to take to my father, and on his acknowledging the gift with thanks, Mr Nuttland remarked, "I have no doubt that they are brothers, as the handwritings are so perfectly alike."

During the years I studied in Edinburgh, from 1827 to 1832, the University chairs were filled by Munro, Hope, Home, the Duncans, good Dr Alison, and, though last not least, Dr, now Sir Robert Christison; and at that time, if one wished to become an M.D., it was necessary to take University tickets; even then, however, there were many excellent extra-academical teachers, as Knox, Liston, Syme, Lizars, Mackintosh, and others; and I may state that I was a pupil of Mr Syme's, first in Anatomy, and then in Surgery, during the years in which I studied in Edinburgh. I had also the advantage of the private advice of my relative, Dr John Scott, a learned and skilful physician in Edinburgh.

Since the period I entered on the study of medicine, what a great advance has been made in every department of the science and art, in physiological and pathological research, in organic chemistry, and in diagnosis and treatment! How much has been brought to light, and how greatly knowledge has been perfected, and humanity benefited by the use of the microscope, the stethoscope, the ophthalmoscope, the laryngoscope, and by chemical analysis! and how many valuable remedies have been added to our armamentarium! While at the same time so many beliefs have been discarded and treatments abandoned as useless or injurious. But, on the other hand, perhaps I may be pardoned if I venture to ask, Has there been no retrogression in practice? In our hurry to find out that which is new, do we not sometimes forget or even despise that which is old, partly perhaps because it is old—as unfortunately there is more fashion in treatment than there should be—and partly because such may have been abused? I think we do, and I hesitate not to say that the most marked example of this undeserved neglect, to my mind, is *bleeding*.

I am willing to admit that when I began practice much of the free *venesection* then in use was in reality an abuse of the remedy; for not only was every acute disease, of which heat of surface and acceleration of pulse were symptoms, almost invariably treated by bleeding, general or local, and frequently both, but for every ache and pain it was the approved remedy.

Sometimes, indeed, bleeding was resorted to simply because the person thought he would be better to be bled every now and then, although he felt nothing amiss; and I am quite sure that it never did any appreciable harm when the person was in health.

In simple fever physiological reasons for the practice were not wanting, even at that time, as may be observed from what Dr Craigie says in his *Practice of Physic.* I cannot recall the exact words, but the statement is to this effect, that in simple fever the balance of circulation being disturbed by the want of power in the capillaries and larger vessels, and inasmuch as we cannot give the power to the vessels to restore the balance, he concludes that the best way to attain this end is to reduce the mass of blood the comparatively enfeebled bloodvessels contain and have to move, and he adds, "the measures thus suggested by physiological considerations are found to be therapeutically beneficial."

Like others following the teaching of the time, I bled very frequently and very freely, and sometimes repeatedly, when I first began practice, and, with one exception, I have never seen any harm result. In this one solitary case the patient and all his friends were so importunate in their demands that the lancet should be used, and being at the time a very young practitioner, I was persuaded, much against my judgment, to follow what they imagined was my duty and the orthodox treatment. I have always felt that in that case I may have helped to hasten the fatal issue. Unquestionably the lancet in disease, like all our best remedies, is a two-edged tool requiring careful handling and judicious use. Where there is little or nothing wrong, on the other hand, the loss of blood moderately can be easily borne; indeed, in the present day I think we are inclined to set too high a value upon the blood, and too slight a value on husbanding the nerve force. It is a matter of daily observation what enormous quantities of blood may be lost with apparent impunity beyond the temporary faintness, and how rapidly strength and colour are re-established. Nor is this to be wondered at when we know by direct microscopic observation how rapidly blood corpuscles are manufactured and elaborated in the blood glands, and that after an ordinary meal they are enormously increased in quantity. We know also how short-lived these are, and that they must be constantly replaced in enormous numbers, and even more easy to understand is the ease with which the volume of blood can be brought up to the normal standard. In disease, on the other hand, all this state of matters is altered, and reckless or unnecessary bleeding may be a very serious error, and I have no doubt very serious blunders were committed long ago by having "bleeders" in the remote districts—perhaps twenty miles away from headquarters—who had orders to bleed the patient again, and perhaps again, if the pain or fever increased and the pulse rose! It may be that having spent my life in the higher parts of the south of Scotland, and practised to a great extent in a pastoral district, it has been my lot to treat acute disease of a more sthenic type than is seen in cities and more sheltered places. Be that as it may, I am fully persuaded there are many conditions in acute, and even in some chronic diseases, best treated by venesection. In the beginning of my career, to neglect to bleed a person suffering from pneumonia would have been looked upon by some as a gross dereliction of duty. Pneumonias, primary and secondary, in young and in old, and in almost all stages of the disease, were generally treated by bleeding. I have no doubt that this indiscriminate treatment of a local condition without any reference to the general condition of the patient must have done harm. But although this abuse might and probably did happen sometimes, I am not quite sure that the statistics showing the great advantage of abandoning the practice are to be read as the anti-venesectionists would have us do. There is no doubt they show that the death-rate is not increased by the disuse of the remedy, but that it was the active agent in vastly increasing the death rate is by no means clear to my mind. It may be presumed, for example, that such men as Skoda and Bennett—whose powers were most marked in physical diagnosis—might detect mild pneumonias which would have been overlooked by less accurate diagnosticians. Other sources of fallacy which I have not here time to enumerate occur to my mind, while, on the other hand, we have, even in Skoda's experience, one of the most striking examples that large bleedings in pneumonia did not necessarily cause a high death rate. He details 64 cases treated, indiscriminately, I presume, by large bleedings and tartar emetic, in which he had only one death. Now, although it has not been my habit to bleed in all cases of pneumonia, there are some conditions best treated by venesection, such, for example, are those where, perhaps, before there is much consolidation, there is a pretty extensive congestion of the lung, the danger to life, which is often great, is, I believe, best averted by bleeding. When, again, there is pneumonia on the one side and impending hyperæmia on the other in young adults, I should bleed. In pleuro-pneumonia, with exceedingly severe pain and a hard pulse, I should seek to relieve by venesection. In simple pleurisy also, when the pain is very great, the respirations frequent and shallow, the skin burning, and great general restlessness, nothing relieves the patient so quickly, and, I believe, moderates the amount of effusion.

In other diseases also I have been in the habit of bleeding. In cerebral hæmorrhage I should consider it a wise practice, if there is increased arterial tension, with a strong cardiac impulse and slowing pulse. In threatened suppression of urine in acute Bright's disease, from whatever cause, in young subjects I should be inclined to bleed moderately, even in the absence of dropsy; and again in cases of chronic Bright's disease, where there is but a scanty flow of urine and increased arterial tension. In such cases bleeding is often the best diuretic, and begins an increased diuresis, which can afterwards be continued by the more ordinary diuretics. I also approve of blood-letting at the commencement of acute rheumatism; and I am most favourable to it in puerperal convulsions, especially in first cases, when the pulse is rigid, although I am certain chloroform is also a valuable remedy in that alarming condition. Again, in head injuries, where the pulse is becoming slower and firmer, bleeding from the arm is, I am convinced, the correct practice, as well as leeching behind the ears. I have a vivid recollection of the benefit of venesection in a case of very severe head injury. The man had been struck by a horse over the forehead, the frontal bone was extensively fractured and depressed, and there was an external wound communicating with the broken bone. He was quite unconscious. The wound was enlarged and many pieces of bone removed, and the depressed portions raised. Next day he was quite conscious, and seemed to be going on well; the third day he was highly feverish, delirious, and unmanageable, and his pulse hard and incompressible. I had no doubt there was inflammatory mischief in the membranes of the brain. He was with difficulty held while being bled. The bleeding was a large one, and he gradually became quieter; subsequently, however, a few hours after, he again became delirious and unmanageable, tore the bandages from his arm, and from his violent muscular movements reopened the vein and lost a great amount of blood. He was not seen till next morning, being seven or eight miles from Selkirk. He was then conscious, rather pale, and his pulse quiet. Subsequently he had a hernia cerebri and an abscess in the substance of the brain, but he ultimately recovered. I had little doubt at the time the copious bleedings saved him from phrenitis. I am, perhaps, not less inclined to look favourably upon blood-letting as an important remedy, because I, not many years ago, insisted upon being bled myself in a threatened attack of pericarditis, and experienced the greatest immediate and permanent relief of all pain and discomfort.

Another remedy, which I fear is somewhat unduly neglected also, is *counter-irritation* by means of *blistering;* and I think I have observed in some young practitioners an approach to something like terror when blistering is spoken of as a remedy that may frequently be used. Certainly as regards children's diseases there is more of this fear than there should be. It has frequently, for example, been my experience to see children, in consultation with a younger practitioner, when blistering in acute head affection had never been dreamed of. In mostly all acute inflammatory affections of the brain, tubercular or not, in children, I am strongly of opinion that after shaving the head the application of blistering fluid has a most rapid and satisfactory effect. Inflammatory attacks also of the peritoneum and chest in children are often controlled by blistering, although the size of the vesicatory and the length of time applied must be carefully considered. And in the rheumatic affections of the joints in adults, repeated blistering has often the happiest results. For many chronic conditions, also, counter-irritation has always held a high place in my list of remedies. In chronic tubercular affections of both chest and abdomen I think occasional and repeated blistering is frequently beneficial, and also in chronic and obscure head and other affections of the nervous system. For example, a blister over the roots of the nerves in herpes zoster often relieves the neuralgic pain so generally present, and often so difficult to get rid of. In diphtheritic paralysis, also, blistering the nape of the neck and even down the spine often expedites cure in a wonderful way. In the uterine or ovarian pain so often complained of in the left side, there is no better remedy sometimes than a succession of fly-blisters, and the tenderness of spinal irritation is very frequently relieved, if not got rid of, by the same means. In chronic effusions the use of blisters is still fully acknowledged, and do not therefore call for special mention.

Did time permit I might mention other remedies which have fallen into disuse. *Mercury*, for example. I am quite convinced that not only adults, but children also suffer very much from calomel being frowned at now-a-days. In some complaints no remedy has so much power. But I cannot pause to go into details. But this retrogression, which I believe to be real in practical medicine, is small and insignificant compared with the immense additions made to our armamentarium. Chloroform, chloral, bromide of potass, nitrate of amyle, and a host of others have all been added to the list since I began practice, while many of the older medicines before highly esteemed have started upon a new career of usefulness, and regained the confidence of the profession, from their physiological properties being carefully studied and the key to their therapeutic action thus explained. Digitalis, as an example of this class, will occur to all.

I have only alluded to some things in practical medicine, which I deem of sufficient importance to mention; and I shall merely add here, before passing on to give you some of my reminiscences of midwifery and surgery, that, among the most frequent medical cases in the county of Selkirk, are acute inflammatory affections of the chest and rheumatism. Rheumatic fever—often very severe and of long duration—is a very prevalent disease, and frequently entails shattered health from subsequent heart affection and stiffened joints.

In Selkirkshire we have also our share of the ordinary fevers and diseases of childhood; of the continued fevers we have practically none except *typhoid*, but it makes up by its prevalence and severity for all the rest. In the town of Selkirk there have been many epidemics, and in the country districts one comes across it every now and then. In 1863 the epidemic in the autumn affected more than 200 of the population, but the mortality was small, only about 12. After this the town got an abundant supply of water from a fresh source, and the succeeding few years were passed over without any death arising from this cause. Subsequently, however, I regret to say, typhoid again became epidemic, probably connected in some way with the rapid growth of the town and imperfect drainage. A good system of drainage has, however, now been adopted, and we have a reasonable hope that we may even get rid of typhoid, at least in the epidemic form.

Phthisis, which at one time was very rare in Selkirk, has of late years become more prevalent, but from what causes I am not well able to state.

As regards *Midwifery*, it necessarily forms in a general country practice a large and important part, and, more than any other, tries a practitioner's patience, good sense, and tact, while it frequently causes him great inconvenience and annoyance. Of this speciality I had a very large share, the cases in my practice numbering over 200 annually. In Selkirk, but especially in the surrounding country districts, the women are generally well formed and muscular, from whence arises two things during labour—(1st), The duration of labour, especially in first labours, is longer than the average; and tedious cases, accompanied with much suffering and great voluntary effort, are common, although there is comparatively little real exhaustion of the strength; (2d), The ultimate result is, as a rule, singularly satisfactory and favourable as regards the patient. Such cases are, however, very trying to the doctor. It has often been my lot, for example, to spend one or two, and, on a few occasions, three days many miles from home. Yet, after forty-five years of it, I must say, that I never regretted a long stay, and am, moreover, decidedly of opinion that it is safer for the patient to give nature a fair chance than interfere too soon; and I object to the application of the forceps or other interference so long as all is going on naturally, and the strength of the patient continues good. No doubt, a medical man in the country has often great temptations and many personal reasons to shorten the period of labour by artificial means. It may be that he is going to begin a long day of remunerative and needful, if not urgent, visiting; or perhaps he has just got home from an exhausting day's work, spent for the most part on horseback, and possibly in a down-pour of rain, or in drifting sleet or snow, when the unwelcome but peremptory summons comes to go immediately to some poor cottage, on a lonely moor it may be, fifteen or twenty miles away, to a primipara, who can give no pecuniary return for professional service. In the one case a day of pleasant and profitable work is relinquished, in the other much-needed rest is sacrificed. But his duty is plain, and go he must; and I am proud to say, that so far as I know, neither in my grandfather's, father's, nor my own time, has any duty of this kind been left unattended to, much less refused.

But while some self-sacrifice is entailed in going great distances at awkward times to such patients, it is a much greater trial to sit patiently waiting for the natural termination of a tedious case. The natural wish to terminate in some way the sufferings of the patient, and the great personal advantage of doing the work quickly, is a temptation difficult to resist.

It must not be supposed for a moment from what I have said, that I decry the use of forceps or other artificial means to end labour when the natural powers begin to flag in the least, or when, from some unusual condition of the mother or child, their health or safety demand active interference. On the contrary, artificial dilatation of the os, the use of forceps and podalic version, have been a very frequent experience during every year of my practice. Indeed, among my first midwifery cases in 1833, I had one in which I found the arm protruding from the vagina, and in which, after a full dose of opium, I managed with gentleness and patience to turn by the usual method, and delivered a big strong boy, who, as well as his mother, are still alive. This was my first case of turning, and since that time I have, as a rule, turned not only in cross births, but in almost all cases where many other practitioners would have used the long forceps, and with a result so satisfactory to my own mind as fully to justify my choice; and, as every one knows, since the introduction of chloroform, this method of dealing with obstructions and difficulty in labour, and in hastening delivery, can be much more easily and safely carried out. In malposition of the head, I never hesitate to turn when the head has not become entangled in the pelvic bones; and I have not found, when due care is exercised, that the life of the child is much jeopardized in turning.

Like other doctors, it has been my fate to have cases of *placenta prævia*, and so sad and unfortunate is the result of such a complication, notwithstanding all the skill and care bestowed upon them, that I imagine with myself other practitioners look back with horror on some of their cases.

The first case I had was in 1834. The lady was about to be confined for the second time, and before I saw her had suffered from repeated losses of blood. When I was called to her she looked pallid, and the pulse at the wrist was small. Labour had begun, and was accompanied by a discharge of blood. Upon examination the os was found somewhat dilated, and its circumference completely covered by the placenta. I had little difficulty in dilating the os sufficiently, and in separating the placenta, to enable me to pass my hand into the uterus, and then with ease I turned and delivered the child. The placenta was then most carefully and completely removed, and the uterus grasped firmly till the bleeding, which had been considerable, stopped. For two hours afterwards all seemed going on well, when my patient unexpectedly expired while I was sitting at her bedside, from what immediate cause I cannot say. I shall never forget my horror and dismay. After this sad experience I had several cases of complete *placenta prævia*, the majority of which, I regret to say, terminated unfavourably, although a fair proportion were successful.

While I have such a sad experience to record as regards those cases of *complete* covering of the circumference of os and the body of the uterus round it with the placenta, it is very different with *partial placenta prævia.* These cases, as a rule, do pretty well. I take an early opportunity to rupture the membranes, and excite as much as possible, by dilating the os and other means, active uterine contractions. The pressure of the child's head or the pressure of the fingers introduced into the uterus is generally sufficient to control hæmorrhage, and delivery is often effected without any occurrence of serious bleeding.

A rarer and, fortunately, much less serious form of complication in labour arises from intra-uterine *hydrocephalus:* of such cases I have had several. The first I had an opportunity of observing was one attended by my late father, who, feeling some uncertainty about the cause of delay in the labour, sent for me. We had some difficulty in ascertaining the real state of matters, but at last came to the conclusion that the head of the child must be hydrocephalic, and punctured through one of the sutures; a great discharge of fluid amply verified the diagnosis, the head collapsed, and by the aid of a hook the body of a large child was delivered. The woman made a good recovery. The second case of the kind presented by the breech, and my assistant after delivering the legs had pulled on for hours before sending for me. By external and internal examination I decided we had to deal with a hydrocephalic head, and punctured it through the foramen magnum, after which the head was without difficulty extracted. In this case the woman made a tedious recovery. Other cases occurred which required similar treatment, while a few, either from the capacity of the pelvis or the smallness of the fœtus, were expelled by the natural efforts, and without interference. An almost invariable complaint in these cases is made by the patient of a peculiar girding pain and feeling of tightness all round the lower part of the abdomen and loins, the reason for which one can readily enough understand. In none of my cases of delivering by turning did that dreadful and most-to-be-feared accident occur, namely, rupture of the uterus.

Among the more unusual events, also, in midwifery is the occurrence of *triple births*. In my practice those have occurred four times; all the children were born alive; but while in one case all three died, in the other three cases one of each survived, and became men, and are, I believe, still alive; as to the mothers, all did well, notwithstanding the risk from greater nervous shock and hæmorrhage.

I cannot end this short and imperfect sketch of some of the more striking kinds of cases in my midwifery practice, without mentioning that once in the course of my professional life I had the misfortune to have a group of consecutive cases of *puerperal fever*, and eight deaths. These cases were, without a single exception, attended by my then assistant; and all occurred within a very few days, evidently arising from septic poisoning through some bad cases of scarlet fever he was attending at the time. The interval between the attendances on these midwifery cases was so short that no warning was given of the real nature of the first case before all had been attended. The moment it occurred to me that there might be a common origin for them, I at once took charge for some time of all subsequent midwifery cases myself, and no further calamity took place.

While midwifery forms the larger share, and occupies more time than any other special department of medical practice in the country, *Surgery*, so far as it goes, is quite as important, and as a rule much more attractive, especially to the young surgeon. Many surgical injuries are so plain, more particularly those requiring operation, the remedy so obvious, and so rapidly applied, the success often so undoubted and complete, and the credit gained so decided, that the operator feels the most lively and immediate satisfaction. Who does not recollect his first surgical case? I can recall without effort every detail of my first *amputation* which occurred in my first year of practice. At that time the machinery in our mills was not so well protected as it is now-a-days, and as a result of this it unfortunately happened that a boy was caught by one of the moving wheels, and before he could be rescued the femur was broken above the knee and its shaft torn from the soft parts as high up as the hip-joint. My father being from home, I sent for my friend the late Dr M'Dougal of Galashiels, the father of Dr M'Dougal now of Carlisle, and with his assistance took off his leg close to the trochanter. As it was before the days of chloroform, the operation required to be quickly performed, and with the disadvantage of a very feeble light from a small candle. In the country many things conspire to complicate and modify surgical practice; and the difficulties which a surgeon meets do not consist solely of the intrinsic difficulty of the case, but in the want of assistance and appliances as well as sufficiently frequent supervision in the after treatment.

In the course of my long experience it has frequently happened that while many miles from home I have been intercepted by a messenger to go to the scene of some accident; and without assistance, and with nothing, perhaps, but an ordinary dressing-case, be expected to face any surgical difficulty. In such circumstances it has been my lot to treat great varieties of dislocations, and of fractures simple and compound. On one occasion I was met in the way I have mentioned, and on arriving at the place found a case of compound fracture of both tibia and fibula, which resisted all the ordinary methods of reduction, until I removed a portion of bone with a common kitchen saw. I then stitched the soft parts with an ordinary needle and thread. This case did very well; but generally speaking, compound fractures are among the most difficult cases to manage at great distances from headquarters, as may well be imagined. In simple fractures country surgeons have often to exercise their ingenuity in the way of improvising splints. Unbroken wheat-straw does well. Pillows also answer well enough as a temporary splint—anything, in fact, that keeps the parts at rest and in good position.

Cases of *primary amputation* also crop up when least expected, and when one is least prepared to deal with them; and it has often happened with me that a simple straight bistoury, or even an ordinary knife, has had to do service for a much larger and more efficient instrument, and I must say the results attained by such homely means were not only worthy of these means, but, if I may venture to add, also of the art of surgery.

Other operations also requiring immediate performance often present themselves unexpectedly. Of such are *strangulated hernia* and *tracheotomy*. Called, probably very hurriedly, to a distance of perhaps twenty or twenty-five miles to see an urgent case of you don't know what, you are horrified to find a small strangulated hernia which resists every effort to reduce it. It may, and probably has been, down already too long, and operate you must at once, without chloroform and without assistance. This I have had to do on more occasions than one, and, as a rule, successfully. Some of them have healed by the first intention, and in one case I recollect especially an old man upwards of 80 years; the sutures were all removed on the third day, and the union complete.

But not only is surgery in the country difficult when the cases occur unexpectedly; but even when the nature of the case is known, it is anything but an easy matter to get all the things carried which you may need, when it is necessary, from the position of the place for which you are bound, to ride on horseback. A long splint or a double inclined plane, for example, are serious impediments in a ride of fifteen or twenty miles along a bridle path, over a moor perhaps covered with drifted snow, and it may be during the night. In such circumstances your safety depends not only upon calmness and vigilance, but the unrestrained and free use of hands and arms.

Referring to such impediments recalls to my mind the question, whether at the present time it will be necessary for the country surgeon to add to these the *antiseptic spray* generator, and the bulky dressings of Professor Lister. I do not doubt that many a young doctor of the period, carefully trained in the school of antiseptic surgery, would unhesitatingly answer in the affirmative; but I can picture to myself such a one before setting off up Yarrow or Ettrick, in a deluge of rain in summer, or an "on-ding" of snow in winter, to a herd's house on some lone hill side, bravely strapping to his shoulders, or otherwise disposing about his person or saddle, this engine of defence to resist the attack of micrococci and blow away the bacteroids, while he, perhaps, excises a mamma, relieves a strangulated hernia, or removes a fibroid or fatty tumour! But, besides, I fear that the chances of success of antiseptic surgery are so small in country practice, that it is apt to be valueless; for I am persuaded that if the system cannot be carried out in the perfect and thorough manner practised by Lister and others, we are better without it, and must adhere to the old plan of free exposure of the cut surface to the air till the oozing ceases, and then bringing the parts accurately together by stitching with a moderate amount of tension, and keeping the edges quite dry, is by far the more likely way of getting union by the first intention. To this end, I have no doubt, in the country districts we are greatly helped by the purity, quantity, and rapid movement of the air. Even in the houses the renewal of this pure air is rapid enough to be felt frequently; and when insanitary conditions do exist in and around a house, they are easily detected and removed. In this way, I believe that while we cannot carry out antiseptic surgery, we have frequently enough aseptic air about the patient, which assists materially to add to the number of wounds healing by the first intention.

From what I have just said, however, it must not be supposed that I decry antiseptic surgery, or believe it to be incapable of achieving greater results than any other method; on the contrary, I am persuaded it is right in principle, and that it is just because we have in the country the conditions often naturally which this plan aims at invariably bringing about artificially, that our cases are so free from blood-poisoning of all sorts. I am especially convinced that in all operations involving serous membranes, as those of the joints and the more important cavities of the abdomen and thorax, no other method could possibly give such unvaryingly good results. As time goes on, moreover, and as the principles of antiseptic surgery become more firmly grasped by the medical mind, we may hope for much greater simplicity in obtaining the essentials of the system, namely, asepticism, so that it may be within the reach of those practising in the most remote of our country districts, and be undertaken without much assistance.

But, Gentlemen, although much might be added to my reminiscences of forty-five years' country experience in medicine, surgery, and midwifery, I have already trespassed too long on your time and patience in these rambling and imperfect pages; and I must now conclude by repeating my thanks for the high honour done me in the appointment to the Presidentship of the Harveian Society on this occasion; and I beg, at the same time, to express my regret at being unable to preside at your festive board, the duties of which, I think, I could have more easily performed than the literary effort which has now been required at my hands.

ARTICLE II.—*Cases of Intra-Cranial Tumour.* By BYROM BRAMWELL, M.D., Late Physician and Pathologist to the Newcastle-on-Tyne Infirmary, Late Joint Lecturer on Clinical Medicine and Pathology in the University of Durham College of Medicine, Newcastle-on-Tyne.

(*Continued from p.* 700.)

THE next case presented all the typical symptoms of increased intra-cranial tension, probably the result of a tumour. Unfortunately a post-mortem examination was not obtained. The seat of the tumour was not diagnosed, as there were no localizing symptoms.

CASE X.—*Male, æt.* 37. *Intense Headache; Vomiting; Double Optic Neuritis; Phosphaturia; General Muscular Weakness; Giddiness. Unrelieved by Full Doses of Iodide of Potassium. Death. No Autopsy.*

L. H., æt. 37, married, a glazier, was admitted to the Newcastle-upon-Tyne Infirmary under my care on the 20th April 1877, suffering from intense headache, vomiting, dimness of vision, and general debility.

Previous History. — He has always been healthy and steady. His present illness commenced five months ago, and was brought on, he thinks, by exposure to cold. He has never received any head injury, and has not had syphilis.

Family History.—Good.

Condition on Admission.—He is very thin and emaciated, and is so weak that he can with difficulty stand or even sit up in bed. This is partly due to the fact that he becomes very giddy whenever he assumes any other than the recumbent position. He feels the weakness all over his body, as much in the arms as in the legs.

His mind is clear, his intelligence good, but his memory is much impaired. He sleeps well when free from pain. His chief complaint is headache. The pain is referred to the forehead and vertex; it is not worse at night. There is no tender spot on the exterior of the cranium. He frequently vomits; the vomiting is generally worse first thing in the morning, and is aggravated by movement.

Special Senses.—*Sight* is dim; the pupils are moderately dilated, the left slightly larger than the right. There is most marked double optic neuritis. He complains of noise in the head, but is unable to refer it to any particular spot. Auscultation of the cranium gives negative results. *Hearing* is otherwise normal. *Taste* and *Smell* are normal.

Sensibility of all sorts is normal.

There is great muscular weakness, but no paralysis. The muscles are very much atrophied. Co-ordination is natural. The *urine* is loaded with phosphates. The tongue is large and foul, the appetite bad, the bowels costive. There is no blue line on the gums, nor is there any suspicion of lead impregnation.

The *Pulse* is 84. The *Temperature* normal.

The *other organs* are normal.

Treatment.—He was treated by full doses of iodide of potassium, opiates, purgatives, and the application of ice-bags to the head.

Progress of the Case.—He made no improvement, and, getting tired of hospital life, discharged himself during my temporary absence from Newcastle. He died shortly afterwards from gradual exhaustion. No post-mortem was obtained.

Remarks.—I was careful in this, as indeed in all my cases of intra-cranial tumour, to make inquiries as to a history of lead poisoning. I shall afterwards relate some cases of lead epilepsy in which the symptoms closely simulated the symptoms of cerebral tumour.

In the next four cases the tumour was situated in the cerebellum.

CASE XI.—*Woman, æt. 64. History of "a Stroke" and of a Fall. Headache; Rigors; No Paralysis, but General Muscular Weakness; Congestion of Right Optic Disc; Vomiting. Cardiac Disease. Bronchitis. Convulsion and Sudden Death. Autopsy: Mitral Stenosis; Tumour the Size of a Plum indenting the Left Lobe of the Cerebellum; Remains of a Small Hæmorrhage in the Left Corpus Striatum; Multilocular Cyst of Right Ovary.*

A. C., æt. 64, widow, was admitted on 28th September 1875, complaining of pain in the left side, shortness of breath, and general debility.

Previous History. — She was unable to give any satisfactory account of herself. The people who brought her to the hospital stated that three weeks ago she had "a stroke," and fell down stairs in consequence.

Condition on Admission.—She is very short of breath; the face is dusky; the conjunctivæ swollen; the feet and legs œdematous. She is very dull and stupid, and it is with the greatest difficulty that she can be got to answer questions.

She complains of headache, and frequently puts her hand to her head. Every now and again she takes trembling fits, and says she is cold. She is unable to stand or to get out of bed. There does not seem to be any definite paralysis, but there is general muscular weakness. When she attempts to stand she tumbles over. Her friends stated that, when she had "the stroke," her right side was paralyzed.

She says she cannot hear either aerial or skull sounds with the right ear; she professes not to hear the skull sounds with the left. Sight, she says, is good. With the exception of the subconjunctival œdema the eyes look natural; the pupils are equal and dilated; the veins of the fundus, in both eyes, are large and tortuous; the right disc is very much redder than the left, which is of a natural hue; there is, however, no swelling.

The cardiac transverse dulness is increased. At the apex both sounds are short and valvular. There is no murmur. The pulmonary sounds are accentuated. The radial pulse is 96, weak and irregular. Bronchitic râles are heard all over both lungs.

Progress of the Case.—There was no great change in the patient's general condition. She occasionally complained of headache and often vomited. On 21*st October* she was seized with a convulsion, and before the house-surgeon reached the ward she was dead. The right side had apparently been most affected in the convulsion. The fingers of the right hand were firmly bent in to the palm, and the hand flexed at the wrist-joint.

The Autopsy was made thirty-six hours after death. The feet and legs were œdematous. There was no external marks of violence. The scalp and skull-cap were natural. On removing

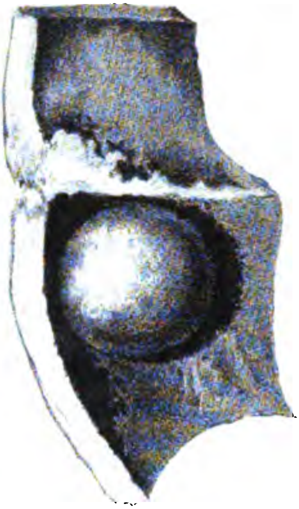


Fig. 1. Portions of temporal and occipital bones, showing the tumour springing from the dura mater.

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION

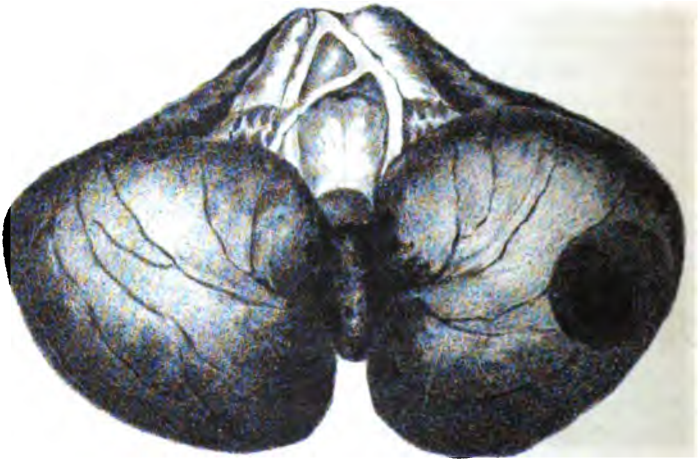


Fig. 2. Cerebellum, showing the indentation caused by the tumour.

the brain a round, white tumour, the size of a green-gage plum, was seen just beneath the tentorium on the left side. (See Plate, Fig. 1.) It sprang from the dura mater, and had deeply indented the left lobe of the cerebellum. (See Fig. 2.) There were no signs of softening nor inflammation of the nervous elements. A small hæmorrhage, evidently of some weeks' duration, was found in the extra-ventricular portion of the left corpus striatum. The ventricles were normal. The arteries were slightly atheromatous. There was no embolism. The naked eye characters of the brain were otherwise normal.

There was well-marked constriction of the mitral valve, with the usual secondary changes in the right heart. The lungs were considerably congested. The right ovary was a beautiful specimen of cystic degeneration. The other organs were normal.

Remarks.—In this case the presence of the tumour was not suspected during life. Viewed in the light of the post-mortem, the symptoms (headache, vomiting, general muscular weakness, inability to stand apparently from loss of control) were to some extent characteristic of a tumour of the cerebellum. The case was, however, so complicated that a correct diagnosis could hardly have been expected.

There are only two points calling for remark: the one is the absence of the characteristic œdema of the optic discs, and the fact that the right disc, the one on the opposite side to the lesion, was markedly congested in comparison with its fellow on the opposite side. The absence of œdema was probably due to the fact that there was no great increase in the intra-cranial tension; flattening of the convolutions is not mentioned in the notes of the autopsy.

The other point is the fact that the paralysis ("the stroke"), which was presumably the result of the hæmorrhage into the extra-ventricular portion of the corpus striatum, had so speedily passed away. At the time of the patient's admission to hospital the muscular force of the two sides seemed equal.

CASE XII.—*Girl, æt.* 9. *Injury to Back of the Head: Vomiting; Headache; Sudden Loss of Sight and Hearing; Neuro-Retinitis; Voracious Appetite; No Paralysis; No Disturbance of Muscular Co-ordination; Convulsive Seizures; the Spasms being generally tonic and unattended with loss of Consciousness, the Muscles of the Eyeballs, Right Side of the Face, and Right Upper Extremity being chiefly affected. Death. Large Scrofulous Tumour in the Right Lateral Lobe of the Cerebellum.*

A. C., æt. 9, was admitted on 24th January 1878, suffering from headache, blindness, and deafness.

Previous History.—Her mother states that she was quite well until four months ago. One day while at play she was thrown violently against a stone wall, and received a severe blow on the back of her head. The injury was followed by headache and vomiting. For some days she was confined to the house, and she has never been well since. The headache has been very severe: it used to come on three or four times a day, and was generally referred to the frontal region. She used of her own accord to hold her head under the cold tap, as she found this gave her relief. A week before admission she suddenly lost her eyesight, and the next day her hearing. Since then she has been almost free from headache. She has not been feverish, has neither had shiverings nor convulsions.

Condition on Admission.—Though quite blind and apparently quite deaf, she seems bright and intelligent. She can readily distinguish her mother by the feel of her dress. (In a very short time she became acquainted with the nurses in the same manner.) She often cries out as if from pain, and places her hand on the right side of her head. There is no tender spot on the exterior of the skull.

The muscular movements of the eyeballs are natural; the pupils are widely dilated; marked neuro-retinitis is present in both eyes. The external ears are natural; hearing both to aerial and skull sounds is *nil.*

Sensibility seems natural.

There is no paralysis. The gait appears to be natural. She walks quite as well as one could expect, considering the fact that she has recently lost her vision.

The upper incisors are notched and peg-shaped, but no specific history can be obtained. The appetite is voracious. One day at the time of my visit, 12.30 A.M., she was busy eating the nurse's dinner—a large plate of mutton and potatoes. She speedily finished it, and at once began to clamour for her tea. The same morning at 10.30 she had taken a pint of thick soup and a large quantity of dry bread. She would at any time devour as much dry bread as she could get; in fact, she could never be satisfied. On admission she was rather thin and badly nourished. After a short time there was considerable improvement in this respect, but she never got fat.

Lungs.—There was evidence of some effusion at each base. The respiratory murmur over the upper part of the right lung was very harsh. Dry râles were heard now and again over both lungs.

The *urine* was loaded with phosphates.

The *temperature* was normal. The *pulse* varied from 100 to 120.

The treatment consisted in the application of ice-bags to the head for the relief of pain, the administration of iodide of potassium, cod-liver oil, and tonics.

Progress of the Case.—She remained in the Infirmary until her death, which took place on 23d June. During the whole of this time she suffered from periodical attacks of headache and vomiting. There was no recovery of sight or hearing. On several occasions she was seized with convulsions; the spasms were generally of a tonic character, and the muscles chiefly affected were those of the head and neck, both eyeballs (the eyes being turned upwards), and both upper extremities. Sometimes clonic, convulsive twitchings were seen in the right side of the face. Consciousness was not lost during the convulsive attacks. Towards the beginning of May she became stupid, and was confined to bed. The urine and fæces now began to be passed involuntarily.

On 23*d June* she died, having been in a semi-comatose condition for several days.

The *post-mortem* was made on 24th June at noon. The body was thin and emaciated. Rigor mortis was well marked in the upper extremities.

The scalp was natural. The skull-cap was very thin indeed, but showed no signs of former injury. Three or four large pacchionian bodies projected through the frontal portion of the dura mater, and had excavated the frontal bones. The convolutions were much flattened, the sulci quite effaced. The vascularity of the surface of the brain was natural.

The right lateral lobe of the cerebellum was adherent to the surrounding membranes, and was much larger than the left. The increase in size was due to the presence of a scrofulous tumour in its interior. The inner half of the lobe was chiefly invaded by the new growth. The other lobes and the peduncles were healthy.

The ventricles were widely dilated. The brain substance was œdematous and soft, but otherwise normal.

The membranes at the base of the brain and in the Sylvian fissures were normal. There were no deposits in the substance of the cerebrum.

The contents of the encephalon weighed 3 lbs.

The internal ears and auditory nerves seemed quite healthy.

The bronchial glands were enlarged and caseous. The mesenteric glands were also enlarged. Both lungs were firmly adherent throughout. Several deposits of miliary tubercle were found in the lungs and on the surface of the kidneys. The peritoneum and intestines were healthy.

The other organs were natural.

Remarks.—In examining a case such as this, in which headache, vomiting, and, above all, optic neuritis are the leading symptoms, the diagnostic questions to be determined are:—

1. Are the symptoms due to the presence of an intra-cranial tumour?
2. If so, where is it situated?
3. What is its pathological character?

In this case I had no difficulty in answering the first question in the affirmative, for there was absolutely nothing to indicate any other cause for the symptoms.

The localization of the tumour was a much more difficult matter, and I did not give a positive opinion on this point. There was no loss of muscular control, no loss of equilibrium, such as we usually find in lesions of the cerebellum. There were, however, some facts suggesting such a lesion. These were the tonic character of the convulsions and the deafness.

The latter being bilateral, and of sudden occurrence, could not well depend upon a local affection of the auditory apparatus, and, according to Hughlings-Jackson, deafness never results from lesions of the hemispheres. We know, on the other hand, that it is not unfrequently associated with lesions of the cerebellum.

Then, again, there was the fact that the injury, which was most distinctly the exciting cause of the mischief, was a blow on the back of the head. This is an argument of doubtful value; for, as I have already stated in this paper, in a large proportion of cases the tumour does not develop at the seat of the injury.

The pathological character of the lesion was rightly diagnosed, its scrofulous nature being surmised from the associated lung disease and the age of the patient.

The voracious appetite of this patient was very striking; this point has been already referred to.

The fact that the loss of sight and hearing occurred suddenly, is an interesting point and difficult of explanation. A rapid increase in the ventricular effusion could hardly account for it, and if it had resulted from irritative inhibition, as motor paralysis sometimes does, it would not have been so permanent.

The case affords an interesting therapeutic lesson, showing as it does the value of cold in the treatment of this form of headache. The statement, which the mother volunteered, that the child used to hold her head under the cold tap, is a very striking one.

CASE XIII.—*Pitman, æt.* 18. *Sudden Attack of Giddiness and Vomiting; Headache; Reeling Gait; Phosphaturia; No Optic Neuritis; Normal Condition of Hearing; Epileptiform Convulsions. Relief under Iodide and Bromide of Potassium.*

G. F., æt. 18, pitman, single, was admitted on 22d March 1877, complaining of giddiness and inability to walk.

Previous History.—The patient enjoyed good health until seven weeks ago when his present complaint commenced. It was caused, he thinks, by smoking on an empty stomach. He has suffered from giddiness, vomiting, and headache. He has been off work for a month and is gradually getting worse. He has not had syphilis, and has never received any head injury.

The Family History is good.

Condition on Admission.—He is unusually strong and well developed. His facial appearance is natural. The pupils are equal and contracted. Sight is good. The optic discs are natural. There is no ocular paralysis. *Hearing,* both to aerial and skull sounds, as tested by the watch and tuning-fork, is natural. He has not had any noise in his head. *Taste* and *Smell* are natural.

He feels giddy when he walks, and rolls from side to side as if he were slightly drunk. The loss of muscular control is worse in the dark. He can, however, stand steadily with his eyes shut. It is only when he attempts to move in the dark that he finds any difficulty. There are no indications of locomotor ataxy. When he leans his head back he tumbles backwards over. When he leans his head towards the left shoulder he feels as if he would tumble towards the left. He can place his head in other positions without any abnormal sensation.

When he first took ill he used to think that objects were moving round him, and his eyes "ached so sore" that he had often to keep them shut. He has occasionally tumbled backwards over.

The *muscular system* is perfectly natural.

Sensibility of all sorts is natural.

The *reflex functions* are natural.

The *urine* is loaded with phosphates. All the other systems and organs are healthy.

The *treatment* consisted in the administration of full doses of iodide of potassium.

Subsequent Progress of the Case.—On 2d *April* the giddiness was somewhat less, and he walked better. He had had more headache. He slowly improved, and discharged himself on 3d May, saying that he wished to go home.

On 4th May, while standing with his hands in his pockets, he felt a cramp-like sensation in the fingers of the left hand. He tried to pull the hand out of his pocket, but was unable to do so. The numb feeling extended up the arm to the head, and he fell back insensible. He remained unconscious for twenty minutes. When he came to himself he felt sick, but did not vomit. He did not know if "worked" in the fit.

On 5th May he took another fit. It commenced in the same way; he was convulsed during the attack, and foamed at the mouth.

On 7th May he presented himself at the Infirmary, saying he felt heavy and stupid. He was ordered 15 grs. of the bromide of potassium in addition to the iodide.

On 16th July it was noted: The patient has been much *in statu quo* since last report. On Saturday he had a severe convulsion, in which he bit the left side of his tongue. The fit commenced, as previous ones have done, with an aura in the fingers of the left hand. The dose of bromide was increased to thirty grains.

In *August* he came over to Edinburgh and had the advantage of consulting Dr G. W. Balfour, who diagnosed a tumour of the cerebellum, and advised the administration of still larger doses of the medicine, and the introduction of a seton to the back of the neck.

He continued to present himself occasionally at the Infirmary, and when last seen, August 1878, he was somewhat better; he had not had a fit for several months; the headaches were less frequent; the giddiness still continued, but was less troublesome than formerly; no fresh symptoms had developed; the optic discs were as they always had been, quite healthy.

(*To be continued.*)

ARTICLE III.—*Reduction* en masse *of a Strangulated Inguinal Hernia in a Woman; Operation; Recovery.* By EDMUND OWEN, F.R.C.S., Assistant Surgeon to St Mary's Hospital, London, and Lecturer on Anatomy.

(*Read at the Medical Society of London*, 17*th March* 1879.)

THE report of an unequivocal case of a strangulated inguinal hernia reduced *en bloc* appeared in the *Edinburgh Medical Journal* of February 1879, from the pen of Professor Annandale, and as such cases are of rare occurrence, it may not be amiss to place side by side with it the history of a similar case, in which a line of treatment was followed differing somewhat from that adopted by Professor Annandale.

On 25th November last, a spare and healthy-looking spinster, 63 years of age, was admitted into St Mary's Hospital for a strangulated inguinal hernia of the right side. She said that she had been ruptured for quite twenty years, but that she did not know how the rupture first occurred, that she had always been able to keep it up by wearing a truss, but that on the day before her admission the under-strap had broken during a violent fit of coughing, and so the rupture had come down. Next day she was sick; and being still unable to reduce the rupture, she called in a doctor, who succeeded in returning the chief part of the tumour within the abdomen; but as a small piece remained unreduced, he advised the removal of the patient to hospital, where the house-surgeon easily completed the reduction by pushing a small protrusion through the external abdominal ring. Nevertheless, the pain and sickness continued; so that she passed another restless night, and the morning found her with some slight pain across the region of the umbilicus, and with tenderness in the right iliac fossa.

In the afternoon of the 27th I was asked to see her, and found her in no very great distress, though she was frequently sick, and complained of tenderness across the abdomen and in the right iliac fossa. The temperature was 98°, and the pulse 92 and feeble. The external abdominal ring was clear, and readily admitted the end of the index finger.

Although the symptoms were not very urgent, I remarked that the case was, in all probability, one of reduction *en masse*, and arranged to see it again in the evening, when, if the condition was not improved, I would propose opening up the inguinal canal and exploring. There was no ecchymosis, or even redness of the skin of the labium or over the inguinal canal, so that no great violence could have been employed in the previous manipulations. A careful search showed that there was no other hernia in any accessible region.

When I arrived in the evening the symptoms were more grave, but the external abdominal ring was quite clear. And just as a messenger was about to be sent forth to call some of my surgical colleagues to a consultation—the notes for that purpose had, indeed, been written—Mr Juler, the registrar, discovered that an unusually severe attack of vomiting had caused the appearance of a small flaccid swelling at the external abdominal ring. It could easily have been pushed up again, but no attempt was made to return it, and the patient was at once put under the influence of chloroform, and the interior of the inguinal canal freely exposed by incision.

Then, just between the pillars of the external ring, was seen a peritoneal sac of the size of a small walnut, which, on being opened, was found to contain serum only. This pouch communicated by a narrow neck, about an inch and a quarter long, with a sac which lay higher up, just inside the internal abdominal ring; and this second sac contained a small knuckle of ileum, or jejunum, which was congested and œdematous from tight constriction.

At first the presence of the gut could only be made out by pushing the finger along the tubular neck of peritoneum which joined the two pouches, but on dragging the sac down into the inguinal canal the gut could be clearly seen. And it is expedient to remark that there was no difficulty in dragging down this upper sac; that it was quite loose within the walls of the abdomen; and that it was necessary to pull it firmly down before the strangulation—which was formed by the neck of the sac—could be divided. Thus, "the sac had been pushed bodily into the abdomen by being torn away from its connexions" in the labium. This last sentence is taken from Mr Birkett's essay, in which he implies a doubt if such a condition ever obtains. And here I must confess that I do not see how a *large* sac can possibly be detached from its scrotal connexions and translated into the abdomen; but, on the other hand, I do not think that one can deny that a small tight hernia may be readily driven within the abdominal walls—not, of course, into the peritoneal cavity—by determined taxis, and this especially if the hernial sac have not habitually lived outside the lower inguinal ring.

But to continue the account: The constricting neck of the sac having been divided, the intestine was readily returned, and the sac was pushed up to the internal ring. A small drainage-tube was then inserted into the lower end of the wound, and the sides of the latter were approximated with catgut sutures. The dressing was completed by folds of dry lint fixed with strapping.

Next day the temperature was 101°·4, and the pulse 104, and weak; but the patient looked much better, and complained only of pain over the right groin and in the back.

On 29th—that was the second day after the operation—the temperature was normal; nor during the whole period of convalescence did it ever again rise, notwithstanding that there was some suppuration from the wound.

On 1st December the bowels were opened by a dose of castor-oil, the motion affording great relief; and on 9th January, 1879, the woman walked out of hospital, wearing a truss, but with no signs of a return of hernia.

Instances of reduction *en masse* are, fortunately, of so rare occurrence that the report of such a case as the preceding cannot fail to be of interest, nor is that interest diminished by the fact of the subject being a female.

In Mr Birkett's well-known essay on the question of reduction *en masse* of inguinal hernia, which was read at the Royal Medical and Chirurgical Society just twenty years since, the author criticises the reports of 37 cases, all of which occurred in male subjects, who were either submitted to operation, or whose bodies were examined after death, with or without a cutting operation having been performed.

From these valuable records he drew seven conclusions, amongst which is this:—"That although the hernial sac is displaced, it is not detached from its scrotal envelopes." He considered that most of the cases of reduction *en masse*, so called, are really instances of rupture of the sac, and of the forcing out of its contents with the loose connective tissue which lies between the abdominal walls and the peritoneum.

Of the 37 cases to which Mr Birkett referred the gut had descended into the funicular process (so far as could be ascertained) in 22 instances. In the case which I have reported above, I am strongly of opinion that the two sacs, and the tubular neck which joined them, were the remains of the old funicular process (the canal of Nuck), though the early history of the case does not strengthen me in that opinion.

When I look back upon these notes I cannot but feel that I was wrong in postponing the intention of operating from the afternoon until the evening; if any operation were to be done, surely we should not venture to shirk responsibility. But, somehow or other, I think that our teaching has had the effect of making us so to dread the exploratory opening up of the peritoneal cavity, that we not unfrequently hesitate until delay has placed the prospect of affording relief far beyond the pale of probability. I think, however, that we are beginning to discover that the peritoneal cavity is much more tolerant of exploration than our forefathers imagined it to be. And here I would put the question—not in expectation of its receiving an immediate answer,—Has the nature of the peritoneal cavity and of the large synovial cavities altered during the last fifty years? Certainly the surgery in connexion with them has materially changed, if we read modern reports by the side of the deliberate instructions and expressions of opinion of the illustrious dead. Or have the surroundings altered? Surely we are not to attribute all our advance to the use of carbolic acid.

In conclusion, I would quote a pregnant sentence from a valuable paper by Mr Luke, in which he is discussing the advisability of exploring the abdominal cavity in cases in which a hernia is supposed to have been reduced *en masse.* He says, "It should be remembered that an unsuccessful attempt is infinitely to be preferred to no attempt at all; and that passiveness on the surgeon's part may be more destructive to life than any incisions which he may be required to make."[1]

ARTICLE IV.—*Hæmatemesis in the Newly Born Child (Illustrated by a Case associated with the Hæmorrhagic Diathesis in the Mother).* By JOHN A. ERSKINE STUART, L.R.C.S. Ed., Dunse.

DR WEST, in his valuable treatise on *The Diseases of Infancy and Childhood*, says, when referring to hæmatemesis in infants and children, that it is "too seldom met with for any person to have what can be called real experience about it." Having had a case of this rare disease under my own observation, I thought it might interest some of the profession to record it.

Etiology of the Disease.—The causes of this disease are variously stated. Obstruction to the portal, pulmonary, and cardiac circulation, or a deficiency in the nutrition and elasticity of the capillary walls, evidenced by the co-existence of a hæmorrhagic diathesis, either hereditary or not.[2] A tedious labour, in which the child's head and abdomen are much compressed, has been succeeded by this disease, while in some instances the difficult establishment of respiration has seemed to be a predisposing cause.[3] After reading over the literature on the subject, I have come to the opinion that cases of this kind can be divided into two varieties:—

1. Those depending on a rupture of some bloodvessel in the stomach, when the course of the circulation after birth has been impeded.
2. Those which are due, in most probability, to a want of tone in the coats of the bloodvessels, associated, as in my case, with hæmorrhagic diathesis, either hereditary or not.

Pathology.—The post-mortem appearances are by no means constant, but in some cases the whole abdominal organs are gorged with blood, indicating some obstruction to the circulation, and extravasation into the coats of the intestines is seen, constituting an "*abdominal apoplexy*."

---

[1] *Trans. Royal Med. Chir. Soc.*, vol. xxvi.

[2] Dr Wilson Fox in *Reynolds's System*, vol. ii. p. 971.

[3] West's *Diseases of Infancy and Childhood*, p. 614.

Dr West, during his long experience, has only seen three cases of the disease, and the post-mortem appearances in two of these did not indicate anything particular. In one of these cases death occurred from passive extravasation into the arachnoid, showing the hæmorrhagic diathesis.

M. Rilliet, in twenty cases collected by him, found that hæmorrhage occurred in nine of these thirty-six hours after birth.[1] There is also along with the hæmatemesis, in most cases, purging of blood.

Treatment.—The cause being wrapped in so much obscurity, the indications for treatment are *nil*. However, as in a considerable number of cases the little sufferer recovers, it is perhaps wrong to try to check it. If excessive, I should suggest the mother milking her breast and icing the milk. The child would easily take that from a spoon, when it might think twice of taking a piece of ice into its mouth.[2]

The case which I have to relate lived, and was a healthy child when I last saw it.

Case of Infantile Hæmatemesis: Uterine Hæmorrhage and Dysentery in Mother.—On 26th April 1878 I was called at 6.30 A.M. to visit Mrs J., who was in her fourth labour. Her last labour had been a most dangerous one, for she had nearly flooded to death, during the labour, before the child was born, necessitating the use of forceps, as Dr Hamilton who attended her informed me. This flooding reduced her very much, but shortly after she again fell in the family way. In the end of January 1878 she sent for me, complaining of most excessive pains in the vagina, which, however, were easily relieved by bromide of potassium in half-drachm doses nightly. About two months before her confinement she sent for me, and I found her complaining of dysentery, losing considerable quantities of blood by the bowels. This was controlled easily enough by pil. plumb. c. op., but notwithstanding that, she became exceedingly anæmic, what with the previous flooding and the dysentery. Her confinement, as I have before said, came on on the morning of 26th April 1878. She had a perfectly natural labour, and although I was on the outlook for either ante or post partum hæmorrhage, she did uncommonly well, being delivered about an hour after I went to the house of a very small child. On the evening of the next day her husband came for me, telling me, to my astonishment, that the infant had vomited a large quantity of blood. On going to the house I found that this had been going on at intervals all day. However, it inclined to take the breast, and in the course of the next day the bleeding stopped, as far as I can remember. No treatment was adopted. The bowels, when they acted, passed a quantity of black blood. This infant for some months afterwards was in a very weakly state—a mere bag of skin and bones. It had a very bad attack of bronchitis, from which it recovered. I found that a few drops of vin. pepsin given three times a day improved its condition wonderfully. When I left the Lake District in the middle of July the infant had considerably improved in appearance.

---

[1] *Gazette Médicale de Paris*, No. 53, 1848.

[2] I would only suggest this treatment where the hæmorrhagic diathesis seemed to be the cause, for where the hæmorrhage is due to some obstruction of the circulation, the bleeding is a provision of nature.

This case is very instructive. The hæmorrhagic tendency in the mother seems the only plausible reason for the hæmatemesis in the child.[1] No injury was done to the child during the progress of the labour, the case being a thoroughly easy one.

ARTICLE V.—*On the Prevention of Mammary Abscess.* By W. ALLAN JAMIESON, M.D., F.R.C.P., Lecturer on Diseases of the Skin, Edinburgh School of Medicine.

(*Read before the Edinburgh Obstetrical Society, 26th March* 1879.)

THERE is, perhaps, nothing more disheartening to a young mother, nor any puerperal ailment, not dangerous, which weakens her more than what is known as a gathered breast. It is not my intention to enter at all into the question of the treatment of such a condition, but to direct attention to some of the causes which lead to it, and to suggest measures calculated in my experience to prevent its occurrence. And here a circumstance may be mentioned in consequence of which the Edinburgh practitioner possesses an immense advantage over his brethren in many other places. There is no rule so universally acted on here, by the common consent both of doctor and patient, than that of every parturient female engaging some time before her confinement the services of a medical man. Such is not the case everywhere, however. Nothing is more frequent in country districts than for a doctor to be summoned to attend in labour an utter stranger, whose acquaintance he makes for the first time at her bedside during an interval between the pains. Much is lost by both parties by neglecting to engage a medical attendant, the patient loses opportunities of obtaining valuable hints which might have saved her much anxiety and often much suffering, the doctor chances of correcting miscalculations as to date of being laid up, and also of judging in some degree of possibilities of a slow or rapid labour. The benefits are so great and so obvious that it is mysterious why the plan is not universally followed; that it is not so, is mainly due to a want of firmness and unanimity on the part of the medical profession. The suggestion recently made that pregnancy as well as labour should be regularly watched over would, if carried out, do much to diminish post-partum mortality, and to facilitate the process of labour; but as many women, from a sense of delicacy, shrink from anything like supervision during what they have been led to regard as a natural course of events, the advantages to be gained from even one interview with their future attendant should not be lost sight of.

---

[1] The elder members of the family were decidedly scrofulous, which disease is also associated with hæmorrhagic symptoms, as in purpura.

The ordinary causes of mammary abscess occurring during the period of some weeks succeeding parturition are four in number.

1. Distension of the milk ducts, or of a part or the whole of the gland, due to some obstruction to the free secretion of milk deeper than the nipple. This is often directly due to exposure to cold before the function of the organ is fully established, and the system has become habituated to the new demands made on it for the performance of lactation.

2. Imperfect development of the nipple itself, the nipple being retracted or malformed, or either wholly or partially impervious to the milk formed in the gland. Sometimes this atrophic state is due to abscess of the mamma in early infancy, the turgescence and inflammation so often met with in the breasts of children soon after birth having run on to abscess, and the subsequent condensation having choked up the nipple. Another cause is, however, long-continued moderate pressure during early womanhood, the nipple being flattened by hard, ill-fitting, or tight stays, and the breast itself compressed by dresses made too narrow across the chest. This condition of the nipple is found when in one breast alone, most frequently in the left, being then not unlikely associated with the apposition of that side to the desk in the act of writing, or the mode in which the left breast is liable to be impinged on by the arm in sewing or knitting.

3. The irritation of abraded or fissured nipples.

4. When constant attempts at suckling are made, and either the gland itself secretes feebly from its own imperfect development, or the mother's blood is deficient in milk-forming material, localized hyperæmias are apt to be induced, and eventually end in deep abscesses.

Such being the causes of abscess of the mamma, let us see what means are at our disposal to prevent them from coming into play, for the real lies much deeper than the apparent origin of the mischief. Thanks to fashion, the stays of the present day are much less injurious than those of some short time back,—if they descend more deeply over the hips to accommodate their wearers to the exigencies of a Princess's costume, they at the same time do not cover the bosom so high up. Ladies declare stays to be necessary articles of dress, and they must be admitted to be the best judges; but while conceding this much, stays should be so made as to support the breast without at all pressing on the nipple. They should, in fact, either not reach to the nipple, or have a crescentic portion removed from the centre of the upper margin on each side to leave the nipple free. In Austria, where full busts are the rule, mammary abscess is, I have been informed, much less common than with us; but then there, besides a natural proclivity due to race, a certain degree of cultivation is undoubtedly resorted to, it being regarded as a positive misfortune to be deficient in that respect. During the virgin state, therefore, no undue restraint to the growth of the breast should be permitted, and healthy outdoor exercise, and the practice of such amusements as archery and lawn-tennis, which are incompatible with dresses tight over the chest, should be encouraged in every way. By these means the aptitude for functional activity is best maintained by the gland during its period of dormancy.

When conception has taken place, among the earliest symptoms of its occurrence are those manifested by the mammary glands, evidenced by stinging or pricking sensations, increased fulness and weight, and all those objective alterations in the areola and nipple so often described. These subjective feelings appear to me to be Nature's summons to attention,—a prayer for aid in assisting to prepare the gland for the important office to be discharged by it in furnishing food for the infant after birth. Yet, in most cases, how little note is paid to the warnings thus given! While all sorts of instruments have been devised for drawing out the nipple after parturition, it has been in great measure forgotten that all this painful and troublesome process might have been avoided by systematic regular attention to the nipple during pregnancy. This should consist in washing the nipple once or twice *every day* with soap and warm water, during which ablution the nipple should be pressed and drawn out; and further stimulation should be excited by rubbing rather firmly after drying with *eau de Cologne* or equal parts of brandy and water. It is not often that we have the opportunity granted us of recommending the commencement of this procedure very early in pregnancy, but when we are engaged to attend at the approaching confinement we ought to make a point of giving these directions, which are invariably gratefully received. Though more absolutely necessary in the case of primiparæ, they are almost as valuable in multiparous females, and should also be impressed on them. Besides the mere mechanical influence exerted by friction and manipulation, a further effect is produced by the frequent direction of the thoughts to the breast and nipple. Dr Carpenter[1] quotes Sir H. Holland's remark, that the "strong and continued direction of the attention to a part in all probability affects either its innervation, or its circulation, or both." Mr Heath,[2] in his *Lectures on Diseases of the Breast*, says, "that friction, if prolonged, will induce hypertrophy not merely of the nipple, but of the breast, is shown by a case which came under my notice some years back, in which the lascivious manipulations of a lover extending over many months had resulted in a veritable hypertrophy of the whole organ." We have ground, then, for believing that this treatment of the breasts during pregnancy seems to afford legitimate scope for the influence of "expectant attention;" to be really useful, however, it must be thoroughly carried out and persevered in daily till labour sets in. When these measures have been faithfully followed, we have a means of judging whether a nipple is hopelessly atrophic, and unfit to nurse with or not, when we examine the breasts after delivery is completed. If no reaction has followed, and the nipple remains flat, and especially, if on pressing our fingers behind it, it conveys the sensation of being firmly bound down, the probability is great that attempts at suckling, at least with that breast, will be fruitless, and if persevered in, will almost certainly end in abscess. Cautious, very cautious, attempts may indeed be made all the more freely if some milk can be squeezed from the nipple, but we must be actively on the alert for a more than possible failure, and be ready to apply cooling lotions—belladonna, perhaps leeches, or gentle elastic pressure to limit the first symptoms of congestion of the organ. I have several times in former years seen abscess result from ill-judged persistence on the part of the nurse to induce a mother with an impervious nipple to continue attempts at suckling. It is good policy, then, to desist in time.

---

[1] *Brit. Med. Journal*, 14th December 1878.

[2] *Lancet*, 6th May 1871.

When the nipples have been prepared for the demands of nursing in the mode described, it is seldom that fissures or hacks of any moment arise during its performance. But when such measures have not been adopted during pregnancy, and even in spite of them, when the skin is delicate, or the infant's mouth is affected with aphthæ, cracks and abrasions of the nipple take place, and must be promptly treated, otherwise abscess is very likely to supervene. The remedies for sore nipples are innumerable, having tried most of them with various success, I have for some time employed one only, which has rarely indeed failed to effect a speedy cure, provided the case has not been too long of being attended to. The *collodium flexile* of the Pharmacopœia answers every indication; it forms an efficient protection from the air; by its contraction, tends to draw the margins of the fissure together, and does not injure the infant—a most important point not always regarded in some of the remedies recommended. The collodium flexile may be painted on several times a day, the nipple being first dried, and the sides of the crack pressed together. When the child is put to the breast the film covering the point of the nipple may be peeled off, so as to allow the milk free egress from the mammillary tubules.

When an organ in the discharge of its function is strained, either from inherent weakness in itself, or from debility of the general system, the contractile power of its vessels is lowered, and a form of congestion is induced, which may go on to the formation of abscess. This is especially apt to occur in the mammæ of weakly or ill-nourished women, and here the prophylaxis of abscess consists in the recognition of this fact. When efforts at suckling are attended with pain in the breast, and down the arm on its inner side, or the gland feels, after feeding the infant, tired and strained, and more particularly if the mother herself seems to suffer in health and appetite, and develops hysterical symptoms, the attempt to nurse should gradually be given up.

Due attention to these matters, which may perhaps be regarded in the light of minor articles of detail, does not seem to me to have been always hitherto paid, and a feeling of this has induced me to make the foregoing suggestions, which I hope may aid in lessening the frequency of mammary abscess.

ARTICLE VI.—*Spurious Hydrophobia in the Lower Animals.* By W. LAUDER LINDSAY, M.D., F.R.S.E., Physician to the Murray Royal Institution, Perth.

EVERYTHING connected with the subject of hydrophobia in man must have a special interest at a time when the public mind is excited by the number and nature of the deaths from that disease that have occurred in midland and southern England during the present year, and especially the latter half of it;[1] when the disease has invaded Scotland, where hitherto it has been virtually unknown, on such a scale, or in such a form, as to have alarmed her largest city—Glasgow; when the British Medical Association has thought fit to appoint a special Medical Commission to inquire into the phenomena of, and the remedies for, so fell a disorder; and when the medical profession as a whole—from the veteran Sir Thomas Watson downwards—has its attention keenly directed towards the best mode of treating the disease on scientific principles.

The present seems to me, then, an appropriate time and opportunity for placing before my brethren of the medical profession certain facts culled from my note-books, with relative comments, in order to show that—

1. All reputedly "mad" dogs, cats, or other animals, are not necessarily rabietic.
2. All bites, even of rabietic dogs, are not necessarily productive of hydrophobia in man.
3. The propensity—natural or morbid—to bite is developed in a number of other conditions than rabies; with which conditions rabies is apt to be confounded. These diseases or conditions, apt to be mistaken for rabies, include—
    - (*a*) Mere transient anger; which, however, by virtue of its intensity or duration, may pass into
    - (*b*) Fury or ferocity, becoming uncontrollable; and thence into

---

[1] This paper was written in the winter of 1877.

(*c*) Acute ephemeral mania.
(*d*) The delirium or mania arising from removable or non-removable mechanical irritation.
(*e*) The delirium of typhus, phrenitis, distemper or other febrile disorders.
(*f*) Epilepsy, or other convulsive disorders.
(*g*) Repletion with food.
(*h*) Artificial life — involving as it does deficient exercise, improper food, and non-gratification of certain instincts.
(*i*) Sexual excitement.
(*j*) Solar exposure.

4. The bite of a non-rabietic animal may, and frequently does, produce in man dangerous or fatal disorders, though these do not necessarily take the form of hydrophobia.

5. Summary destruction of a merely suspected—or even of a rabietic—animal is from all points of view an egregious blunder.

6. Muzzling, and certain other forms of repressive treatment, are apt to produce the very disease they are intended to prevent.

My claim to be heard on such subjects rests mainly on the following grounds:—

1. During a period of over twenty-five years I have studied—sometimes experimentally—the general subject of the diseases that are common to man and the lower animals; and I have written thereupon both in veterinary and medical journals.[1] But—

2. More especially and recently I have had occasion to study the different forms of "Madness" in the lower animals as compared with insanity in man; and on that question also I *have* made various contributions to medical literature.[2]

3. The reading connected with these studies—reading of a varied kind, which has included that of the newspapers and journals of the day—has introduced me to numerous instances of what I have called, simply for convenience sake, "Spurious" Hydrophobia both in man[3] and in the dog. Notes of all such cases were transferred at the time to my note-books, from which they have been extracted, as occasion required, for the illustration of papers on the so-called "Hydrophobia" now of man, now of other animals.

As regards the *dog*, I have been very much puzzled—and probably my readers will be so also — by the very different views taken by veterinarians, or by sporting authorities, who have had a large experience of dogs and their ailments, as to what constitutes *rabies* and what *hydrophobia*, for both terms are sometimes technically and distinctively, sometimes indiscriminately and synonymously, employed.

---

[1] *E.g.*, Papers on—(1.) "Community of Disease in Man and other Animals," *British and Foreign Medico-Chirurgical Review*, January 1874. (2.) "The Transmission of Diseases between Man and the Lower Animals," *Edinburgh Veterinary Review*, July 1858.

[2] *E.g.*, Papers on—(1) "Madness in Animals," *Journal of Mental Science*, June 1871. (2.) "Pathology of Mind in the Lower Animals," *Ibid.*, April 1877. (3.) "Insanity in the Lower Animals," *British and Foreign Medico-Chirurgical Review*, July 1871.

[3] What I had to say of "Spurious Hydrophobia *in Man*" appeared in the *Journal of Mental Science* for January and April 1878.

Nature, of 14th December 1871, tells us that "old works upon canine diseases used to specify *seven species of canine madness*, dumb madness among them, the last and worst being running madness, which was no doubt hydrophobia; though probably many other phases of so-called madness were simply *distemper*, which, in primitive days, was little understood as a specific disease."

The Honourable Grantley Berkeley, "who perhaps has had more experience in kennel management than any other sportsman" (upwards of fifty years' experience), regards hydrophobia and *dumb madness* (or distemper madness) as different insanities; the first invariably fatal, the other seldom so. According to him the diagnostic symptom that can be relied upon in *true hydrophobia* is refusal to approach or lap water.

"So nearly allied are these two insanities, that the lapping of water in one instance, and the horror of water in the other, are the facts that at first sight distinguish one disease from another." According to his view every hydrophobic dog will "go into convulsions at the sight of water." But his opinion is regarded as untenable by the authorities of *The Field* (newspaper), who tell us that "over and over again has this mistake been pointed out to Mr Grantley Berkeley in our columns and elsewhere. There have been adduced by the score well-known cases of true hydrophobia in which the dogs have exhibited no horror of water, in which, indeed, the opposite disposition has been displayed;" yet they complain that he continues obstinately to propagate the mischievous dogma that people "may safely dispense with all precautions if they are bitten by a dog which will lap water."[1] These diseases differ markedly, however, in the relative frequency of their occurrence; for while of true hydrophobia Berkeley met with only a single case, he has had "hundreds of cases in his kennels at different times" of dumb madness.[2]

In a letter to the *Times* of 9th December 1871, Mr John Henderson thus described *dumb madness*[3] as it broke out in the Durham kennel of fox-hounds. "The first hound, a quiet animal, showed premonitory symptoms of madness, when the pack, after a severe run, were breaking up their fox, by biting and snapping at every dog he could get near." Most properly he was forthwith isolated "in order to ascertain the nature of the attack. . . . Towards the end of the third day he became furiously mad, biting at everything within reach." On his way home, on the day of seizure, he "crossed a brook without reluctance and lapped water freely. Two days later I saw him lap broth when in a condition so mad that he flew at any one coming near the door of his kennel." Post-mortem examination showed the stomach to be full of straw, chips of wood, and similar indigestible and heterogeneous material. The animals subsequently affected gave rise to "fighting and noise. . . . worrying each other, covered with blood and furiously mad," the others (still unaffected) being "crouched up in a corner frightened and trembling." [1]

---

[1] *Field*, 9th October 1871.

[2] Letter to the *Times* of 29th November 1871, and a leader on "Mad Dogs" in the *Edinburgh Courant*, of 18th December 1871.

[3] At Guadaloupe, from 1776 to 1778, dogs were attacked first with "dumb madness" and afterwards with "furious madness" (Fleming, *Animal Plagues*, p. 486); what is the precise distinction is unexplained.

Mr Augustine Butler, master of the Clare hounds (Ballyline, Oranmore, Ireland), speaks of *dumb madness* as synonymous with *melancholy!* He thus describes its sudden incidence. "After a long and good day's sport . . . one of the hardest-working and best hounds in the pack refused its mess." It was at once isolated for ten days, and the disease disappeared; so that the disease is not invariably fatal as is sometimes represented.[2] The *Animal World* reports a case of a dog in a state of inconsolable grief at the loss of its mistress; it "sickened" into "dumb madness," to escape the agonies of which it was killed, in the belief, no doubt, of the incurability of that disorder and its dangerousness to man.[3]

A still more suggestive instance of the same kind of confusion between rabietic and other forms of *madness* is the following: On the day of the funeral of a certain lady her seven dogs, living in or about the house, "all displayed unequivocal signs of madness, and were enclosed in the stable-yard and shot down by the servants from windows overlooking it." One escaped, and bit three cows, that became hydrophobic, and were shot as being so. Now, as to the lady's chief favourite among these dogs, we are told that it was an "ill-tempered, suspicious brute," a bitch, which, however, when her mistress returned after a long absence from home "very nearly lost her life from *joy*, and did lose a litter of puppies. Years afterwards the lady died abroad, and her body was brought home in a leaden coffin. The effect on the dog, which had remained at home, was that it yelled with agony and leaped again and again upon the coffin, with piteous gesticulations of fondness and despair." [4] So sensitive an animal may well have become insane from *grief;* and the form its insanity assumed may well have been acute mania. But that other six dogs—probably of far less impressionable constitutions—should have been simultaneously affected with madness of any kind, is one of those assertions regarding animal rabies, or its allies, which "no fellow can understand."

---

[1] This same epizootic was described also in *The Veterinarian* for November and December 1871, and in *The Field* of 2d December 1871.

[2] Note on "Dumb-Madness in Hounds," in *The Field*, 3d February 1872.

[3] For October 1873, p. 156.

[4] "Dogs whom I have met," *Cornhill Magazine* for December 1872, p. 671.

In an article on "Canine Madness, when Communicable and when Non-Communicable to Man,"[1] Dr Philpots of Poole, Dorsetshire, likewise distinguishes *hydrophobia* in the dog from *rabies*, which latter he denominates *distemper madness.* He adopts Berkeley's view that true hydrophobia is rare and dangerous; while rabies is common and innocuous—except in so far as any animal bite may prove troublesome to man by reason of its size, depth, or other conditions. He holds, with Berkeley, that hydrophobia is distinguished by dread of water; rabies, by longing for it; the first-named disease being invariably fatal, the second frequently curable; the latter preventible, for instance by vaccination, while the former is unaffected thereby. Heat of weather, he avers, has no effect in producing hydrophobia, but it assists the development of rabies, or aggravates it when developed. As confidently as Berkeley does, he speaks of "most indisputably deciding as to what is a hydrophobic and what a rabid dog."

Pierquin regards canine rabies as a true *mania*,—marked by the development of a special propensity to bite; in other words, he holds that it is but a biting mania or monomania. But he confounds the *insanity of rabies* with the disease itself; he makes the mistake of regarding the morbid mental phenomena as constituting the disease.

It would appear, from the discussions that occurred in the *Times*, *Veterinarian*, and *Field*, in 1871, that while *dumb madness* is regarded as essentially a throat disease, similar to diphtheria, some authorities describe it as *rabies*, or a form thereof; while others hold that it is something quite distinct, though they fail to point out in what the distinction consists, and what are the typical features of rabies.[2] We have seen that Berkeley and his disciples separate *hydrophobia* from rabies (or dumb madness). We have obviously thus three diseases in the dog described under different names, by different authorities—veterinary, medical, and sporting, regarding whose real nature there is yet much to be learned. My own belief is that there is but *one* disease—*rabies;* and that this term is preferable to any of the others, whether for man or other animals. Not that it is quite unobjectionable, for, as Fleming[3] points out, the word rabies "strictly implies fury, madness, fierceness"—conditions or phenomena that are mere symptoms of many different diseases. But it is more appropriate than *hydrophobia*—a term based on a symptom of a far less constant and important character, one that is absent sometimes in the genuine rabies both of man and the dog.[1] And this application to man of the term *rabies* leads me to protest against the unnecessary and confusing multiplication of designations for what is virtually the same disease, whether it occur in man or other animals. Even restricting ourselves to the single generic term rabies, there is ample scope for nomenclature and classification by those who have a hankering after finical elaborations. It is quite permissible to speak of *Rabies humana, R. canina, R. felina, R. equina, R. ovina, R. porcina, R. cervina, R. mephitica,*[2] and so forth, according as the disease is developed in man, the dog, cat, horse, sheep, pig, deer, skunk, or other animals. And it might be admitted that in animals differing so much in structure and habits, what is essentially the same disease manifests certain modifications in its phenomena sufficient to satisfy those who pounce upon minute and trivial differences as the bases of classification and nomenclature, overlooking as they do, and, in fact, unable to appreciate as they are, broad general resemblances. The division of rabies into *species* according to the animal affected is not, however, without its advantages, as it serves to show at a glance how many different genera and species are subject to this one disease, and what must be the number and nature of its forms or phases to be looked for in such a diversity of animal organisms.

---

[1] *British Medical Journal*, 8th March 1873.

[2] Fleming, in his work on *Rabies*, gives plates of "Furious Rabies—last stage" (p. 230), and of "Dumb Madness" (p. 232), both drawn from the life, as characteristic portraits of the respective diseases.

[3] Work on *Rabies*, p. 5. He himself confines the term *rabies* to the lower animals, and applies that of *hydrophobia* to man (p. 6).

Still more inappropriate or improper is the use of the term "Mad" as a synonym for rabies.[3] As I have pointed out fully elsewhere,[4] there are many forms of *madness* in the lower animals, of which forms rabies is but one, and not a common one. I have already said so much on the subject of animal insanity, especially of mania and melancholia, that it is unnecessary here to recapitulate my own views. "Authorities have hitherto denied the existence of any other form of *insanity* among dogs than the well-known and formidable madness familiar to us all under the name of hydrophobia."[5]

---

[1] The following are illustrations of confusion of terms, even by the most eminent writers:—Druitt considers *dumb madness* a form of *hydrophobia*, marked by an early paralysis of the muscles of the mouth and jaws. *Rabies* is described as *hydrophobia* in the cow, pig, dog, cat, and a tame crane—all bit by the same rabietic dog—by Dr Grzymala, of Podolia, *British and Foreign Medico-Chirurgical Review*, October 1876, p. 461. Walsh on *The Horse*, p. 519, speaks synonymously of rabies, hydrophobia, and madness, as do most writers on the diseases of animals.

[2] *Rabies mephitica*—from the bite of the common skunk of North America—produces effects in man similar to those of dog-bite. The Rev. H. C. Hovey mentions forty-one cases of hydrophobia so produced in man, whereof forty were fatal.—*American Journal of Science*, May 1874, quoted in *Nature*, 4th June 1874, p. 95.

[3] That it is still generally employed as a synonym for rabid or rabietic, or, as Fleming calls it, rabäic, may be seen from his work on *Rabies*, pp. 5, 138, and 140; or from Youatt's work on the *Dog*, p. 109.

[4] *E.g.*, in the Papers already cited on—(1) "Madness in Animals," (2) "Insanity in the Lower Animals," and (3) "Pathology of Mind in the Lower Animals."

[5] *Daily Telegraph*, 16th December 1871.

A correspondent of the *Field* of 3d August, 1872, p. 106, thus describes a case of canine madness, which was neither hydrophobia nor distemper, though it was associated with *convulsions*:—"Whilst the dog was lying quietly under the shade of a verandah, he suddenly jumped up and began to howl and yelp and run about." He had "a peculiarly wild expression in his eyes, and, though generally very obedient, appeared to pay little or no attention when called upon by name." He "appeared as if lost, running in and out of every garden in his way." The dog was four years old, "and had had the distemper early."

The same journal, the *Field*, of 19th October 1872, tells us that "all those who are experienced in the maladies to which dogs are subject are agreed that there is a form of *distemper* resembling true rabies, just as there are febrile conditions of the brain in the human subject which, by an ordinary observer, might be mistaken for insanity."

(*To be continued.*)

ARTICLE VII.—*Sudden Death from Aneurism by Rupture.* By EDWARD HENDERSON M.D., F.R.C.S. Edin.

(*Read before the Medico-Chirurgical Society on the 2d of April* 1879.)

As health officer for the foreign settlement of Shanghai (exclusive of the French Concession), I had occasion to write in my official report for 1871 as follows:—

> "Sudden deaths have occurred among foreigners with alarming frequency during the latter half of the past year. As three of these were ascertained to have been occasioned by the rupture of aneurisms of the large vessel leading from the heart, while at least two were supposed to have been determined by the same or a similar cause, and as, moreover, such events in a small community like that of Shanghai necessarily attract much public attention, I think it will scarcely be deemed out of place if I say a few words here as to these affections generally from a health officer's point of view." . . . .

The foreign population of Shanghai on shore and afloat may be estimated at about 3000; women, children, and old people are in smaller proportion in Shanghai than at home. In my report for 1872 I again referred to deaths from aneurism in the following terms:—

> "Two deaths from aneurism in the beginning of the year brought the total number of ascertained deaths from this disease up to seven in six months; the probable significance of such a mortality has already been pointed out. There have been altogether five deaths from aneurism registered during 1872."

In 1873 seven deaths from the same cause were noted. (I may remark here that the deaths among foreigners in Shanghai are registered by means of medical certificates similar to those in use in

England.) Again, in 1874, four deaths were registered, which I noticed as follows:—

> "*Aneurism.*—Four deaths appear under this head, making up the somewhat alarming total of sixteen deaths from aneurism in three years. Since it is certain that the coats of ordinarily healthy vessels will yield but very exceptionally to the pressure of the blood column which they contain, we must seek for an explanation of the frequency with which this disease occurs among those causes which lead to degeneration of the tissues concerned." . . .

The greater number of these sixteen deaths came under my own immediate notice, and I wish now to draw attention to eight of these—seven of which terminated suddenly, and six unexpectedly. I have not preserved detailed notes of all of these cases, but I am able to give the leading features of each in a sufficiently extended form to suit my present purpose. I desire especially to direct attention to certain post-mortem appearances, which have not perhaps hitherto attracted much attention. One case, the first on my list, has medico-legal bearings of an interesting kind. Further preface seems unnecessary, and I proceed now to narrate the events which I witnessed.

CASE I.—Late on the night of the 7th of October 1871, I was summoned by the police superintendent to view the body of Mr A., one of the employees of the municipality, who, it was supposed, had been murdered. The body of this gentleman had been found lying face downwards on the public road, about 200 yards from his house, and close to a low fence, which at that point separated a grass field in front of the house from the road. His boots and hat were gone, but the contents of his pockets had apparently not been disturbed. Mr A.'s servant had informed the police that his master had left his house hastily in the middle of dinner, to find out the occasion of a noise, connected, he supposed, with some quarrel among the native servants outside the compound. Having gone out he did not again return; and some hours later, his servant, going to look for his master, discovered his body in the position and situation just described. When I reached the spot, I found that the police had placed the body on a stretcher, but the place where it had been first seen was shown to me, and the road there was covered with new metal—large pointed granite chips mixed with smaller fragments. The fence was about three feet high. I made a preliminary examination on the spot. Mr A.'s hands were uninjured, though stained with the dust of the road. His clothes were similarly soiled. The face was livid, the lips blue. The left eye had lost its normal tension, it felt flaccid, and appeared depressed in the socket. On the face, especially the forehead, there were several small abrasions into which the dust of the road was indented. I regarded the death as probably due to violence, and arranged to make the necessary examination of the body on the following day. In making the post-mortem I had the assistance of my friend Dr Little, the surgeon of the Shanghai General Hospital. On removing the skull-cap, we found unusual venous congestion of the brain and its coverings, corresponding to the face congestion, which was by daylight very apparent; and we also found a linear fracture of the left supra-orbital plate above the injured eye. At this point we naturally supposed that the cause of death had been discovered, but, on opening the thorax, we found also, to our surprise, the pericardium distended with blood, which had escaped from a ruptured aneurism, situated at the root of the aorta just above the valves. The congestion of the face and brain we considered accounted for by the obstruction which the distended pericardium offered to the return of blood to the heart. The injuries of the head had probably resulted from an unguarded fall, face downwards, on the granite chips. Mr A. had probably fallen while getting over the fence on to the road. I shall not occupy time by further details. The views just stated were confirmed by evidence of various kinds obtained by the police. Mr A.'s boots and hat were found in the possession of a native beggar, who acknowledged having taken them from the body of a dead man, and his statement was confirmed by independent witnesses. The coroner's jury brought in a verdict of death from the rupture of an aneurism. Mr A. was thirty-six years of age.

CASE II.—Three days after the examination of Mr A.'s body, another case of sudden death from ruptured aneurism occurred in my practice under somewhat different circumstances. My patient, a male adult, was seen by me first in the month of February of the same year. He had then clanging laryngeal cough, and somewhat obstructed breathing when the body was inclined backwards beyond the perpendicular. The percussion-note was dull over the upper fourth of the sternum, but there were no murmurs, nor sensible pulsations anywhere, and no difference in the pulses of the arms or wrists. He suffered no pain, and was not anæmic. The diagnosis was aneurism, on which, however, at first some doubt was thrown in consultation; of the existence of a tumour there was, of course, no doubt. My patient was impatient of control, and was not benefited by any treatment, which included rest (enforced as far as practicable), iodide of potassium, and diet regulations. On the morning of the 3d of October I visited him, and found that he had been coughing a good deal during the night, and had spat up several drachms of bright-coloured blood. I represented the immediate risk he ran in plain terms, and instructed him to remain in his room in the horizontal position, and at perfect rest. In spite of my instructions and representations he went downstairs, and while at tiffin, was seized with a violent fit of coughing; a quantity of fluid blood rushed from his mouth and nostrils, and he died almost instantly. There could be little doubt as to the direction in which this aneurism had ruptured, and a post-mortem examination showed the escape to have been from an aneurism of the arch of the aorta into the trachea just above its bifurcation. The aneurismal tumour was the size of a small orange. My patient was 37 years of age at the time of his death.

Case III.—While walking down the road leading from my house with my friend Dr Johnston, on the 17th of November of the same year, 1871, I was met by a gentleman, who begged me to come at once to see a friend, who, he said, had fainted, or was dead. On our way to the house, I learned that the gentleman in question was supposed to be in good health, but had at times complained of a pain in his back, which he considered to be of the nature of lumbago. It had not been severe, and had not interfered with his taking active exercise in the Racket Court. On my arrival I found the body of a gentleman, who I knew at least well by sight, seated in a chair in an easy attitude, and presenting a remarkably anæmic appearance, which, when I had last seen him alive about three weeks before, had certainly not existed. He was quite dead. The face, lips, and lining of the mouth were absolutely blanched, as were also the hands. I pointed this out to the friends, and asked them again if there was no previous history of illness to account for this. They all, however, corroborated the statement of the gentleman who had summoned me, and stated it to be their belief that the pallor was the result of the fatal syncope. Dr Johnston, who was now also at my request asked to see the body, agreed with me as to the peculiarity of the appearance. This gentleman was not my patient, but, by the kindness of his own medical attendant, I was present at the post-mortem examination, which was made on the following day. The body was that of a fairly well-nourished young man. There was nothing abnormal in the external appearances save what I have already noted. When the point of the knife entered the thorax, a gush of clear fluid followed, and for a moment the fear of an undetected hydrothorax crossed my mind. On raising the sternum, however, the real cause of death was apparent. The whole of the left pleura was filled with clotted blood, the clear fluid being of course the serum which had separated during the coagulation. The anæmic appearance was thus fully accounted for. This gentleman was 30 years of age.

Case IV.—In January of the year following (1872), I was casually consulted by a gentleman on account of neuralgic pain in the head, which he attributed to a current of cold air from a window in his office. The pain, he said, was not severe or constant. He was an unusually strong man, and appeared in good health. I thought his explanation of the cause of his suffering at least reasonable, and ordered him some quinine pills, etc. On the 23d of the month I was summoned hurriedly to see him on account of a fit with which he had been suddenly seized while sitting at his desk.

I found him lying on the floor of his office; some foam was escaping from between his clenched teeth; his face was congested, his lips being also somewhat livid. I opened the temporal artery, but little blood flowed, and in a few minutes after my arrival all was over. His friends told me that he had struggled a good deal at first, when he became unconscious, and fell from his seat. A post-mortem examination revealed an aneurism of the basilar artery of about the size of a hazel-nut; it had ruptured, and a good deal of blood was effused on the base of the brain. The point of rupture was plugged by a projecting clot. The artery was atheromatous. The congested appearance of the face in this case I regarded as due to the convulsions which had but just ceased when I saw the patient. This patient was 31 years of age.

Case V.—On the 26th of February 1872, Dr Reid of Hankow sent me a note with a patient who was on his way to England. The gentleman was 25 years of age, and was suffering from thoracic aneurism. When I visited him I found him in bed. I quote now from the letter I wrote to Dr Reid at the time, of which I have still a copy:—"Spitting blood, not in quantity, but still sufficiently to cause me serious alarm. I did not judge it prudent to subject him to any lengthened examination, but ascertained the following as quickly as possible without disturbing him:—Marked, slightly jerking, radial, subclavian, and carotid pulses on the right side. Very feeble radial pulse on the left side, carotid and subclavian beatings not to be felt on that side. Absolute dulness on and under the left clavicle." I need not occupy time by reading the rest of this letter; enough has been given to show the main features of the case. This patient died between one and two o'clock of the same day without any struggle. I saw the body almost immediately after death, and at once recognised the same remarkable pallor which I had observed in the previous case (Case III. of my series). Dr George Thin, formerly of Shanghai, now of London, was present at the post-mortem examination, and I told him, before opening the body, that, judging from the excessive anæmia and the absence of blood in the mouth, I believed we should find that the aneurism had ruptured into the pleural sac. On opening the thorax at the left side of the sternum, there was the same gush of clear fluid (serum) which had somewhat taken me by surprise on the former occasion, and the left pleural cavity was found to be similarly filled with blood-clot. In this case the blood had found its way into the pleura through the compressed and matted tissues of a portion of the left lung, being however, for all practical purposes of classification, essentially a case of rupture into the pleural cavity.[1]

---

[1] There was some leakage also into the surrounding lung substance, which accounted for the hæmoptysis. Dr Reid published a history of the case, with full details, in the China Custom's Medical Reports for 1872.

Case VI.—On the night of the 11th December 1872, I was sent for to see a man at the Central Police Station, who had fallen down at the gate of the station, it was said in a "fit." I found a Portuguese reclining in a chair in a state of collapse, as if from severe shock or injury, but able to answer questions in a tolerably loud and distinct voice. He complained of no pain, but frequently assured the bystanders that he was dying. He was a stout, muscular man, some six-and-twenty years of age, employed by the municipality to superintend the coolies working on the roads of the settlement. He got his food—rice principally—at the municipal kitchen, and had eaten both his breakfast and dinner. His extremities were icily cold, and I could feel no pulse in the radial arteries. His lips were slightly blue. The pupils and movements of the eyes were normal, but he said he could not see. He breathed slowly, but without apparent difficulty. He said he was a teetotaller, and refused to take some brandy which was offered to him, being also sufficiently strong to resist some efforts made to force it into his mouth. He drank a cup of hot tea by spoonfuls. Hot bottles were applied to his sides and feet, and a mustard plaster to the pit of his stomach. He now complained of feeling very hot, and of heat in his heart and stomach, which I took to be the result of the external applications. His hands and feet, however, remained icily cold, and the pulse did not return at the wrist. He was taken to his own house and put to bed. He never rallied, and died about eleven o'clock in the forenoon of the next day. He made no further complaint of pain, save that within half an hour of his death he asked his brother to press his hand on his abdomen below the navel. On examination I found the pericardium containing fluid blood and blood-clot, altogether about six ounces. This had escaped from a pin-hole rupture in a small saccular dilatation (one of three), at the foot of the aorta just above the valves. This patient's face after death did not present a markedly congested appearance. I judged that this, and the manner of his death, was due to the very gradual and limited escape of the blood through the minute perforation.

Case VII.—A gentleman contracted syphilis in 1871, and in 1874 he still suffered from specific bone affections. He had large nodes on both tibiæ and one on the ulna. He took iodide of potassium from time to time, with iron and bitter tonics. In July of 1874 he suffered at times from pains in the neck, shoulder, and chest, but thought these were of the same nature as the pains he had so long experienced in connexion with the bone affections. On the 20th of July 1874, he told a friend that he had not felt so well for a long time. He had, however, decided to apply for leave to return to England for a year. Two days after, while speaking to the head of his house about a new agreement which he had just concluded, his face suddenly became livid, his tongue protruded, and he fell forwards on the floor, dying almost immediately. I saw the body very soon after death, and found the face and neck livid, the external jugular veins standing out in bold relief. I gave it as my opinion that he had died from the rupture of an aneurism, and that the escape of blood had taken place into the pericardium. The result of the post-mortem examination confirmed my prediction. The aneurism was small, but a large quantity of blood had escaped, distending the pericardium and compressing the heart.

(*To be continued.*)

ARTICLE VIII.—*On the Adenoid Tumours of the Naso-Pharynx, and their Influence on the Hearing, Breathing, and Phonation, and on their Treatment.* By Dr LŒWENBERG, Paris. Abridged and translated, by permission of the Author, by JAMES PATTERSON CASSELLS, M.D., M.R.C.S. Lond., Fellow of the Faculty of Physicians and Surgeons, Surgeon to the Glasgow Dispensary for the Diseases of the Ear, Aural-Surgeon to the Glasgow Royal Infirmary, and Lecturer on Aural-Surgery in the Royal Infirmary School of Medicine, Glasgow.

(*Continued from page* 1001.)

(*f.*) *Influence on the Development of Infants and Young Children.*—If nasal respiration be of the utmost importance to the health of the adult, it is for the same purpose all the more necessary in the early periods of infancy and childhood, as has indeed been shown us by our illustrious master *Rayer*, and also by *Billard.* It is a curious fact, that at birth, the young child naturally breathes at once by the nostrils, and does not breathe by the mouth except under direct necessity (Cassells), and it has been shown (by Ogston and others) that in cases of the death of the infant just at birth, that air has been found in the tympanic cavities, when it could not be demonstrated to be present in the lungs. When the nasal passages become choked up from any cause, the young child only acquires the habit of breathing by the mouth with much difficulty, and not a little distress, as any one may notice who observes a young child at the breast, who also is the subject of a nasal catarrh (Kussmaul). It is even distressing to the looker-on under such circumstances to witness the struggles of the child gasping for breath in the intervals of its sucking. Even after the child has through necessity learned to breathe by the mouth, its troubles are not ended. During sleep, which in such cases is always disturbed and unrefreshing, the child is subject to attacks of asthma (Kussmaul), which may lead to congestion of the lungs, and even to arrestment of the respiration, owing to the tongue falling back upon the soft palate (Bouchat). In the early hours of the night also it is frequently the subject of false-croup (Niemeyer), the result of the dry state of the tissues of the glottis and larynx.

(*g*.) *Snoring*.—This symptom is a common enough occurrence among those persons who are not in any way affected by these adenoid growths, but it always is met with in those who are the subjects of them; nor could it well be otherwise, seeing that a snoring noise is most perfectly made when the nostrils are nearly or altogether closed. As is well known, the noise thus designated arises from the air passing between the dorsum of the tongue and the edge of the soft palate, whereby these parts are set in vibration.

(*h*.) *Arrest of Development and Deformation of the Thorax*.—We have found among the young subjects of these growths, especially when these latter were very voluminous, that not only the general form of the thorax was imperfectly developed, but that its walls were notably deformed. In all these patients, viewed from the front, the chest itself was seen to be very flat, and out of keeping with the development of the body generally. There was also to be found a marked depression in both sides of the chest, just about the middle, and which gave to its anterior aspect the appearance known as "pigeon" breast, which is so characteristic of those who are deformed in the body from rachitis; and yet neither the antecedents of the patient, nor minute inspection of the body, gave the smallest sign of this diathesis.

On reflecting on the origin of this deformation of the chest walls, we think that it is not necessary to seek it in the habitual mouth-respiration, seeing that the mouth, in these cases, opens to the inspired and expired air in a way sufficiently well for all the purposes of the regular development of the thorax. It seems to us rather that it is necessary to go back in the history of each patient to a period in the case when mouth-breathing had not yet been exclusively adopted—a period which one may call that of transition or struggle. Here is how these deformities of the chest walls probably happen: the tumours of the throat, only reaching, little by little, their maximum of volume, there necessarily comes a time when the obstruction of the nostrils, although incomplete, becomes troublesome. In those moments nasal respiration being insufficient, and as the patient has not yet exclusively adopted oral respiration, from time to time the mouth is closed involuntarily, and further and repeated efforts are made to breathe through the nose, with the result that the perfect expansion of the thorax becomes less and less perfect, and at last cannot take place at all. Thence follow depression of the diaphragm and contraction of the intercostal muscles, chiefly of the externals. This depression arises from the predominance of the atmospheric pressure on the one hand, and on the other from the elasticity of the pulmonary tissue, which tends to diminish the size of the lung as the intra-pulmonary pressure diminishes. It happens in these cases, that in the long-run, under the influence of atmospheric pressure, the intercostal spaces become hollow, and that even the costal cartilages grow deformed. When these defects occur in the chest walls, during the period of growth, they impress on the thorax a definitive form which becomes a permanency. This deformity of the chest has been referred to another cause by other observers. Thus, it has been ascribed to enlarged tonsils (Dupuytren), and to these in conjunction with repeated and energetic contractions of the diaphragm. It seems, however, that these opinions require revisal in the light of the more recent knowledge which the rhinoscope affords us in respect to the state of the throat in the cases on which these eminent observers have founded their opinions. For our own observations, we can say that the opinion above given as to the cause of these deformities of the thorax was formed in cases in which the tonsils were normal.

(*i.*) *Influence on the Pronunciation.*—It is not only for regular respiration that the nose is required—it is as imperatively needed in the pronunciation of articulate language. As in the case of the breathing so in this of speaking, it is necessary that the nasal passages be healthy in form and in structure. Thus in cases of adenoid tumours of the naso-pharynx, by which the nasal passages are obstructed, those letters that are resonants, as " m " and " n," are those that are least easily pronounced—indeed in many cases this cannot be accomplished, and these letters are replaced by " b " and " d."

The importance of the human voice has not escaped the notice of Pliny, who says, "Vox in homine magnum vultus habet partem;" and it must be allowed that, of all the defects of pronunciation, the nasal-toned noise is perhaps, after stammering, the one that carries with it the greatest social drawbacks to the individual.

Let us try to analyze the physiological conditions under which phonation takes place, and to determine why in the present case there is a substitution of certain letters for certain others, and how this comes about.

We will commence with the consonant "m:" in pronouncing it, one dispels the air through the nose, during which the oral cavity is closed in front by the application of the lips, the one against the other, the isthmus of the throat remaining open behind. The parts being thus disposed, the air contained in the mouth and in the nasal passages enters into sonorous vibrations, and the letter "m" is pronounced. Or, the same configuration of the oral cavity serves to pronounce "b" (labial letter, same as "m"), but with this difference, that here the curtain of the palate is raised to prevent the air passing out by the nose, and which, passing by the mouth instead, serves to break the partition formed by the lips, and "b" is pronounced. One can then call "b" an explosive letter (the celebrated Chladni named the consonants of this category, "lettres de fermeture").

If it happen that some pathological obstacle, for example adenoid tumours, closes the passage of the naso-pharynx, the air in phonation being now no longer able to escape by the nose, makes its way forcibly out by the only possible issue, and in separating the lips (Blake), it is thus that the labial explosive letter "b" comes to replace the labial resonant letter "m" in the supposed case.

It is the same in the substitution of "d" for "n," only those two letters are linguals, which means here that the "fastening," instead of being executed by the lips, is effected by the tongue, the tip of which is applied to the upper incisors and to the neighbouring part of the alveolar arch. As to the remainder, the mechanism of phonation here is the same as in the preceding case; the anterior closing of the oral cavity by the tongue being necessary in the pronunciation of the letter "n," as this act requires that the air pass through the nose. The same closing of the mouth by the tongue serves for pronouncing the letter "d," but only on condition that the current of air passes out by the mouth. When, therefore, the nasal passages are closed permanently, as in our case, and when one wishes to pronounce the letter "n," the air effects the rupture of the linguo-palatine obstacle, and in phonation substitutes the consonant "d" for "n;" the lingual *explosive* letter for the lingual *resonant* letter which corresponds to it. It is the same for "n," which is part of "gn."

It remains now to consider a group of phonetic sounds which we find equally modified in the circumstances at present under consideration, but which have not been, as far as we know, studied from this special point of view:—these are the nasal vowels such as one pronounces in speaking French.

Here the contraction is formed, on the one part, by the flattening of the base of the tongue, and on the other, by the lowering of the curtain of the palate. The special opening which produces the characteristic sound of these nasal vowels, is found to be carried still further back than in the case of the lingual letters above described. The nasal vowels are formed, while the column of air, dividing itself between the oral and the nasal passages, escapes, in part, through the circumscribed opening formed between the curtain of the palate and the back of the tongue, already referred to, and in part passes into the nasal passages by way of generating there the characteristic resonance of the French pronunciation.

When the nasal passages are obstructed, two things are possible in the pronunciation of these vowels, as we have observed; first, where the simple corresponding vowel replaces the nasal vowel, for example "penchant" resembles "pacha;" second, where "a" "g" are added to the vowel "penchant" becomes "pague-chague." In this last case the obstacle is abruptly broken through, and the whole mass of air escapes by the oral cavity.

(*k.*) *Influence on the Larynx and on the Singing Voice.*—Many cases of aphonia due to paralysis have been met with, which, resisting the usual electrical treatment and other remedies, have yielded at once, and become completely cured, on the removal of a hypertrophied laryngeal tonsil or a group of adenoid tumours from the naso-pharynx. Here it would appear as if a reflex action had been exerted upon the nervation of the laryngeal muscles by these masses, and indeed some writers (as Gerhardt) do not doubt that *any kind* of irritation whatever of the pharynx can cause aphonia by reflex action.

Sometimes, in place of suppressing the voice, these tumours tend to limit its compass, and a case has been operated upon in which immediately after the removal of the tumours, the voice gained in range a full tone and a half.

To prove that these tumours do really limit the compass of the singing voice by closing the posterior nares, the following experiment was undertaken: The posterior nares of a healthy tenor-singer were plugged with charpie, and it was observed on using the voice that the same effect had been exercised upon its compass as was produced by the presence of adenoid tumours in other patients.

When these tumours are so situated in the naso-pharynx as to hinder the curtain of the palate from rising freely, they can affect the singing voice, even although the orifices of the posterior nares be not occluded by them, for it is a well-known fact that the soft palate rises as the voice approaches the higher notes of its register.

(*B.*) *Influence of the Adenoid Tumour on the Middle Ear.*—As to the nature of the ear affections which generally accompany the tumours of the naso-pharynx, the ordinary catarrhal inflammation of the Eustachian tube and of the tympanic cavity is the most frequent. More rarely to be met with is the suppurative inflammation of the above cavity and perforation of the membrana tympani.

Mode of Action of those Growths upon the Ear.—It appears to us that their influence can be exercised in two different ways upon the organ of hearing.

1*st*, In maintaining an irritation in the naso-pharynx, and which propagates itself along the Eustachian tube to the middle ear.

2*d*, In mechanically obstructing the orifices of the Eustachian tubes, by which the tympanic tension is disturbed, and the escape of fluids from the tympanum is hindered or entirely prevented, in this latter case leading to perforation of the membrana tympani, and even to more serious results.

Prognosis of the Affections of the Ear caused by these Tumours.—In general the prognosis of these ear diseases is very favourable. In our experience they have proved themselves to be the most amenable to treatment of all the diseases of the tympanic cavity. But this favourable prognosis is conditioned by the removal of the throat disease at as early a period as possible after the tympanic cavity has become invaded.

Opinions of other Writers on the influence of Mouth-breathing in relation to the Apparatus of Hearing.—Although these tumours in the naso-pharynx may not directly affect the integrity of the Eustachian tube, they still cause the subject of them to breathe constantly by the mouth in every instance.

The effect of this habit of mouth-breathing on the ear has been pointed out by several authors, among them Lucæ, Niemeyer, Catlin, and Cassells. Catlin calls this habit malo-inferno,—"the most destructive of habits," and points to the fact that in two millions of the North American Indians living in a state of nature, there were no mouth-breathers and no deaf or dumb persons; while the last-named writer affirms somewhat epigrammatically, that "mouth-breathing means dull hearing, and that a shut nose means closed ears;" for this writer has shown experimentally, that an open nose is absolutely necessary to the perfect ventilation of the tympanic cavity, and that in the act of deglutition there takes place an in-drawing of air through these passages—a fact which has been confirmed by the experiments of Maissiat so long ago as the year 1838.

On the Diagnosis of Adenoid Tumours of the Naso-pharynx.—We can only assure ourselves with certainty of the presence of these tumours in the naso-pharynx in one or other of the two following ways:—

1st, By the examination of the naso-pharynx with the rhinoscope; and,

2d, By the digital exploration of this cavity.

1. Some authors regard it as being always extremely difficult, if not impossible, in certain of these cases to use the rhinoscope, but not only is it not so in our experience, we find very few patients in whom it is not practicable, after the exercise of patience and the expenditure of a little time on the part of the surgeon. It, however, is worthy of this sacrifice, for the results obtained by the rhinoscope will compensate for any amount of trouble that may be encountered in the examination.

The obstacles to an examination of the throat by the rhinoscopic mirror are two in number, viz., with the relation to the position of the tongue of the patient, and to the position of the curtain of the palate.

In regard to the management of the tongue, it is better to teach the patient the required position in which you desire it to be held, by showing in a mirror what that position is. After seeing, and a few preparatory trials, the patient will be able to govern this organ so as to facilitate the examination of the posterior nares and naso-pharynx, the use of tongue spatula not being recommended.

With regard to the position of the palate, it is only necessary to cause the patient to breathe through the nose when he can do so, and to practise this mode of breathing for a little time before the examination is to take place. By this manœuvre the palate is made to hang perpendicularly downwards—a position which favours greatly the success of an examination of the naso-pharynx.

Very often it is useful to cause the patient to use the naso-pharyngeal douche some hours before the intended examination. By this means one can get rid of masses of dried secretion which might otherwise hinder a proper inspection of the parts.

The rhinoscopic image of the parts once obtained, the diagnosis is effected "in a trice," for nothing is more striking than the aspect which these tumours present in the mirror.

2. *The Digital Examination of the Naso-pharynx.*—This proceeding, which is not a recent invention, as some authors affirm, is carried out in the following manner:—

Pass the bent fore-finger with its dorsal face downwards into the mouth, then, and while the patient is breathing through the nose, swiftly turn it round the edge of the palate and pass it into the cavity of the naso-pharynx; next proceed to explore successively with the tip of the finger the posterior openings of the nasal passages and the lateral walls of the naso-pharynx; next, the roof of this cavity and the orifices of both Eustachian tubes; and, lastly, the posterior surface of the soft palate. It is necessary here to exercise great delicacy and lightness of touch. In this way the examiner will be less troubled with reflex action of the pharyngeal muscles.

In this method of examining the naso pharynx the operation is facilitated by causing the patient to breathe through the mouth.

A comparison of these two methods of examining the naso-pharynx shows that the digital examination of the naso-pharynx enables us to judge of the state of its tissues, especially of the superior part of its posterior walls and its sides, with less of difficulty than would be encountered were we to use the rhinoscope. With the finger, also, we can ascertain the size and the mutual relations that exist between the growths with greater accuracy than is possible with the mirror, in which these appear foreshortened and grouped together as they are not in reality.

By palpation of the masses in the naso-pharynx we also ascertain whether the tumours be hard or soft—a point of some importance in respect to the nature of their future treatment.

While the digital examination permits us to assure ourselves of the presence or absence of these tumours, of their seat, of their dimensions and configuration, the mirror shows the state of the mucous membrane of the naso-pharynx and the nature of the secretion that abounds there, and it sometimes permits us to see such small vegetations as are not discoverable by the touch of the finger in the digital examination.

As these two methods of examining the posterior nares and naso-pharynx serve to confirm the results that are obtained by each separably, it is necessary, so far as it be possible, to examine every patient suspected of having these tumours in the naso-pharynx by both methods before forming a diagnosis of the case.

Lately it has been proposed to examine the naso-pharynx (Zaufal and Michel) by passing a tube, 11 centimetres in length, through the inferior nasal passage. This method enables one to examine the orifice of the Eustachian tube in most cases, and those parts of the mucous membrane of the lateral aspects of the naso-pharynx lying in proximity to that canal, but in comparison it is inferior to the other methods of examining this region to which reference has already been made.

Differential Diagnosis.—According to our experience, as we have formerly stated, these tumours are to be met with both in infancy and childhood and in adult life.

The affections with which adenoid vegetations or tumours of the naso-pharynx may be confounded, are the following:—

1st, Chronic nasal catarrh.
2d, Hypertrophy of the tonsils.
3d, Polypus of the nose.
4th, Polypus of the naso-pharynx.

In the briefest manner we will point out the differences between these states and that of the true adenoid growth.

1. *Chronic Nasal Catarrh (Simple).*—The symptoms of a chronic nasal catarrh are permanent stuffiness of the nose, alteration of the tone of voice, from the membranes an abnormal secretion. The senses of smell and taste are dulled. Oftentimes we have an offensive odour in the air that is expired through the nostrils (ozœna simple). If, however, the obstruction of the nostrils be complete, then the patient will breathe through the mouth, and this last-named symptom may be present and yet not be recognised.

In presence of these symptoms it becomes necessary to explore the naso-pharynx, and this is best done by the finger, for the knowledge gained by the use of the rhinoscope in such circumstances is less satisfactory than that which is obtained by palpation.

If the case be one of simple catarrh, then the finger will be able to move with ease through every part of the naso-pharynx, except when the pituitary membrane becomes puffy and projects beyond the orifices of the posterior nares. If the sense of touch of the examiner be not sufficiently delicate to distinguish this state of matters, anterior or even posterior rhinoscopy must be had recourse to. On the other hand, when there are adenoid growths in this cavity, the finger at once makes known this fact to the examiner, who also finds the naso-pharynx to be more contracted than it is when the case is one of simple nasal catarrh.

2. *Hypertrophy of the Tonsils.*—A very superficial examination of the throat suffices to show us if the tonsils are so enlarged as to hinder or limit the motion of the soft palate or to encroach on the cavity of the naso-pharynx; if they be not, then nothing is easier than to recognise the true nature of the case.

Of course, the case becomes more difficult of differentiation when both tonsils are enormously enlarged, as then nearly all the symptoms that indicate the presence of adenoid vegetations are present. Here, also, it must be stated that these symptoms do not always owe their existence to the presence of the hypertrophied tonsils, although the removal of the latter is frequently followed by the disappearance of the former. On the other hand, cases of this kind are often to be met with accompanied by similarly uncomfortable and distressing symptoms, from which relief is obtained at once, and without interfering in any way with these enlarged glands, but solely by the removal of these adenoid growths, whose presence in the naso-pharynx had not been suspected.

Indeed, a careful study of much that has been written on this subject causes us to suspect that in these cases of enlarged tonsils, there existed also at the same time adenoid vegetations in the naso-pharynx, and that most, if not all, of the symptoms were in reality due to these growths although they were ascribed to the tonsilar affection.

For this reason we consider that the question,—how far the tonsils are the cause of the symptoms which are usually ascribed to them, is still an open one, and that it requires to be restudied in order to see if they have not been wrongfully blamed for consequences that were really due either to an enlarged pharyngeal tonsil, or a group of veritable adenoid vegetations.

Perhaps we have here the key to the non-success that often follows the ablation of hypertrophied tonsils. Digital examination, however, will at once decide whether the symptoms be due to enlarged tonsils alone, or to these and adenoid tumours combined.

3. *Polypus of the Nose.*—The occlusion of the nasal passages, and all the other symptoms that arise out of such a state, are alike common to the adenoid tumours of the naso-pharynx and to polypus of the nasal passages; this being so, how are we to distinguish between these two states?

The physical examination of these parts in the manner already indicated, viz., by digital examination, and by posterior and anterior rhinoscopy combined, suffice to decide the diagnoses. But in circumstances in which this physical examination is not possible, the following clinical facts may suffice to decide the point. Thus, while the tumours in the naso-pharynx are frequent in infancy and childhood, polypus of the nose, although found in all stages of life, is very unfrequent at these periods; on the contrary, they usually make their appearance after adult life, and as a consequence of repeated attacks of nasal catarrh. Further, the polypus of the nose manifests its presence by a sensation as if there were a foreign body in them,—a sensation which is never experienced when the case is one of uncomplicated adenoid tumour. Defects of the apparatus of hearing, which are always associated with the latter, are comparatively seldom met with in polypus of the nasal passages, to which, on the other hand, we ascribe disorders in the lachrymal secretion. Then, the nasal polypus sometimes projects beyond the orifice of the anterior nares: at no time does the adenoid tumour leave its place of origin—the naso-pharnyx. Finally, when these polypous tumours of the nasal passages make their way out, their characteristic appearance serves to render their recognition neither difficult nor doubtful.

4. *Polypus of the Naso-pharynx.*—The first and grand difference that exists between the adenoid tumour and the naso-pharyngeal polypus is this, that while the former rarely enlarges so as to exceed the capacity of the naso-pharynx, and is never destructive of neighbouring tissues, the latter, on the contrary, is always progressive in its growth, and enlarging and invading other and important parts, whose structure it destroys more or less.

Here, however, are some clinical facts that may help to make clearer the difference that exists between these two affections. The naso-pharyngeal polypus generally — some authors say "always"—has its origin in the periosteum, on the inferior base of the basilar-process of the occipital bone, where in a normal state there exists already a protuberance of the fibro-mucous membrane (Lorrain). On the other hand, the adenoid tumours may arise from any part of the walls of the naso-pharynx, and are less deeply implanted in its tissues than the naso-pharyngeal polypus.

The adenoid tumours commence to show themselves in the early months of life, while the naso-pharyngeal tumours rarely appear till between the fifteenth and twenty-second year (Nélaton). According to many authors (Nélaton, Gosselin, and others) the naso-pharyngeal polypus is observed exclusively in the persons of young men, while the adenoid tumours are met with in both sexes; indeed, they attack either sex indifferently.

The naso-pharyngeal polypus when large gives rise usually to defects in the act of deglutition; to the regurgitation of food or liquids through the nose; to nausea, to a sanguineous nasal-discharge, and to hæmorrhages even; to a habitual dyspepsia, accompanied by spasm, and by fits of imminent suffocation,—all which are absent in cases of adenoid tumours of the same region. When, however, the differential diagnosis lies between a small polypus of the naso-pharynx and an equally small adenoid growth; when neither the symptoms nor the methods of examination in use serve to clear up the uncertainty that surrounds the case, then the rule here, as elsewhere, is to give the patient the benefit of the doubt, by removing the tumour.

On the Prognosis of the Adenoid Tumours.—In regard to the prognosis of these growths, the question may be asked, What becomes of these tumours when they have attained unto their maximum of growth? It is not easy to answer this question peremptorily, for the knowledge of this affection comes to us only within the last few years; further, while a large number of such cases have been seen by us and even treated during these past years, enough time has not yet elapsed in observing them to decide clearly as to their final and spontaneous evolution.

Be that as it may, we find that these tumours are seen chiefly in childhood and adolescence, and that they become rarer as age advances; and as no one dies of these tumours or any of their complications, it would appear as if the adenoid tumours of the naso-pharynx could disappear spontaneously at a certain epoch in life, *without, however, carrying with them their ordinary complications.*

Apropos of this view, we may glance for a moment at the termination to which some of the other naso-pharyngeal affections come. Thus, we know that the hypertrophy of the tonsils disappears sometimes towards the age of puberty without the intervention of art, and one has seen a nasal polypus of the mucous variety shrivel up and disappear completely (Nélaton and Gosselin) without any treatment whatever. It appears also that the hypertrophy of naso-pharyngeal mucous membrane, so often the result of chronic naso-pharyngeal catarrh, also diminishes according as the age advances, and finally disappears. Even the "pharyngeal tonsil," to which reference has been already made, it also seems to diminish in volume from infancy to old age (Teutleben).

All these analogies support the hypothesis of a spontaneous regression of the adenoid tumours of the naso-pharynx.

What has been already said as to the predilection of these tumours for the ages of infancy and of childhood applies only to their origin, for they are to be met with in the persons of those who are much more advanced in life. Of course the malady at an advanced age is less amenable to treatment than it is in the periods of infancy and childhood, and while these adenoid tumours never return after they are radically removed (by the operative measures upon which we will by-and-by more fully enter), it is otherwise with their effects. These are not removed by the treatment which has sufficed to remove the adenoid growths.

As to the *prognosis* of these consecutive affections, the aural troubles are generally completely cured, and when the group of disorders that arise from the arrest of the nasal respiration have been of short duration, and the obstruction itself completely removed, then it is generally found that these after a time also disappear completely.

After these have existed, however, for a great length of time, it matters little how well the physical condition of the naso-pharynx be restored, its physiological functions, in regard to phonation and respiration, recover themselves slowly and painfully, recalling to one's mind a parallel case, viz., that of successful closure of a cleft-palate, where the consequences that arose out of the open fissure in it disappear slowly, when they disappear at all. It is the same in the special circumstances that we are now considering, as, for instance, when the long-continued obstruction of the naso-pharynx has occasioned and confirmed the habit of mouth-breathing, then the nasal respiration is seldom restored, even although the obstructing tumours are successfully removed—a result evidently due to the abnormal position of the soft palate, which, remaining fixed in a raised position, with its free edge in contact with the posterior wall of the pharynx, acts as a barrier to the passage of air through the naso-pharynx—a position which some authors regard as the result of a local paralysis of the muscles of the soft palate, but which we look upon rather as a state of permanent contraction of those *structures.*

(*To be continued.*)

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION

Part Second.

REVIEWS.

The Bearings of Chronic Disease of the Heart upon Pregnancy, Parturition, and Childbed; with Papers on Puerperal Pleuro-Pneumonia and Eclampsia. By ANGUS MACDONALD, M.A., M.D., F.R.C.P.E., F.R.S.E., Lecturer on Midwifery and the Diseases of Women in the Medical School, Edinburgh, etc. London: J. & A. Churchill.

DR MACDONALD'S present work is the product of patient and accurate clinical observation and extensive reading. The greater part is occupied with the bearings of chronic heart disease on pregnancy, parturition, and childbed, and is a most praiseworthy and successful attempt to give accuracy and precision to an important part of obstetrics.

The writer in the first place considers the evidence brought forward in support of the hypertrophy of the left ventricle of the heart during pregnancy. Curiously enough, this is a battle of nations, the French school strongly supporting the physiological hypertrophy; the German, if not actually disbelieving this, yet casting considerable doubt on it. The question is a difficult one, but all good evidence tends to prove that Larcher and Blot are right in their views. The criticisms of Fritsch and Löhlein, especially the latter, are valuable, however, and Durosiez has undoubtedly given untrustworthy evidence in support of Larcher's views. Dr Macdonald himself, rightly we think, supports the views of Larcher, basing his belief on actual post-mortem examinations of three cases and numerous sphygmographic tracings, which show the increased arterial tension at the end of pregnancy.

In the third chapter, the mutual bearings of heart-disease, pregnancy, parturition, and childbed are considered. This is not quite so satisfactory a section, more perhaps from the imperfect state of our knowledge on the point than from any failing on Dr Macdonald's part.

The first valuable attempt to clear up the matter is by Spiegelberg, who showed that the addition of the placental circulation imposes on the healthy or weak heart a greater amount of work, necessitating greater driving power from it. This acts differently on various valvular lesions. Thus, in aortic incompetence, the disturbance begins about the middle of utero-gestation. Pregnancy, therefore, by imposing on the heart increased work, hastens that serious dilatation which follows aortic regurgitation. In mitral lesion, on the other hand, the serious effects begin after the labour is over, when a larger amount of blood is now returned to a heart whose compensatory power is diminished.

We are inclined to think that Dr Macdonald gives too much weight to the criticism of Spiegelberg's explanation by Fritsch and Löhlein. The views of the former, as given in p. 36, are much too theoretical, and even fanciful, while Löhlein's criticism at p. 42 is, so far as we can judge, wrong. It is undoubtedly true that to contract a portion of the blood system raises the blood pressure. The removal of the placental circulation is, however, equivalent to a dilatation of bloodvessels, and not to a contraction of them.

Volkmann's ingenious experiment seems hardly to bear on the question. We can scarcely imagine that the introduction of a system of pipes between an entrance and exit one has much analogy to the complicated placental circulation.

Under this heading we expected some account of the physiology of the hypertrophy of the heart during pregnancy, especially as some recent work has thrown light on it. Thus, Gaskell[1] has shown that the contraction of a muscle—even in tetanus—is accompanied by dilatation of the small arteries, and a more rapid flow of blood through them.

Then, further, Ludwig and Cyon's well-known experiments of the functions of the superior cardiac branches of the vagus have important bearings. When too much blood is sent to the heart this branch is probably thrown into action, and by the dilatation of the bloodvessels of the thorax and abdomen the extra blood is diverted from the heart. The increased bulk of blood in pregnancy, accordingly, quickens the heart. Its nutrition is thus increased by an extra blood supply to its muscular fibres, and the normal hypertrophy is brought about. In a diseased heart, however, we have not this response; nor, after the labour, is the nervous mechanism equal to the rearrangement required. This whole chapter is of the utmost interest, and our present knowledge is carefully summarized.

In the fourth chapter the clinical history of thirty-one cases is given. Of these, fourteen had mitral stenosis, eight mitral incompetency, six aortic insufficiency, one dilated heart, one ulcerative and one plastic endocarditis. All of them are worthy of perusal, although in some there is too much confusing detail.

---

[1] *Proceedings of Royal Society of London*, vol. xxv. p. 439.

In the fifth chapter sphygmographic tracings are given, tending to show that "during pregnancy, especially during the latter months, arterial tension is increased, and that it is only slightly diminished during the lying-in period;" and the following practical deductions are given on the question:—

> "1. Chronic heart disease ought to be looked upon as a grave contra-indication of marriage, more especially if it assumes the form of anything approaching to severe stenosis of the mitral, or to serious aortic incompetency; in such cases we ought, if consulted, to dissuade from marriage.
>
> "2. There is less danger in the case of mitral insufficiency pure and simple. But still the risk is even then considerable.
>
> "3. In all cases when consulted, we ought not to give our sanction to marriage if in connection with chronic heart disease there are any serious symptoms of cardiac disturbance present, such as attacks of dyspnœa, breathlessness, palpitation on exertion, hæmoptysis, etc.; and this injunction ought to be the more imperative the younger the patient, and the more recent the acute disorder which has given rise to the chronic lesion.
>
> "4. Such patients as are married and have chronic heart disease ought not to be allowed to suckle their children, as that appears to tend to keep up the cardiac hypertrophy and increase the risks likely to arise from the defective heart.
>
> "5. All possible causes likely to produce inflammatory action in the lungs, and all severe exertion, should, if possible, be avoided during the pregnancy, and more particularly during the latter months of it.
>
> "6. Premature labour should seldom or never be recommended, because it is so much more likely to do greater harm, by disturbing the action of the heart and the condition of the lungs, than any good it might produce by terminating the evil effects of the pregnancy. It is always to be remembered that relief of symptoms is not certain after delivery, or indeed anything like certain.
>
> "7. The only conditions which seem to warrant the induction of premature labour are the presence of influences which unduly distend the abdomen, and thus keep the diaphragm in a state of continuous elevation.
>
> "8. The same general principles of management ought to guide us in the case of a patient with chronic heart disease during pregnancy and the lying-in period, as are followed by us in dealing with patients who suffer from heart disease apart from pregnancy.
>
> "9. In almost all the cases I have met with chloroform has been given, and apparently with benefit, during delivery. If carefully administered, I think it cannot but be useful in all cases.
>
> "10. All legitimate means ought to be used to lessen the effects of downbearing efforts, and therefore the judicious and timely application of forceps, or in suitable cases the performance of version, is extremely important if the second stage of labour happens to be in any way prolonged. In case of a large amount of liquor amnii, timely rupture of the membranes is calculated to be of great service, as it allows the diaphragm to descend, and thus lessens the embarrassment in the lesser circulation.
>
> "11. Increased experience warrants me in believing that the mortality following pregnancy complicated by chronic disease of heart may be greatly lessened by due precautions during the pregnancy and delivery—especially during the latter."

From what we have already considered, our readers will see the value and interest of this part of Dr Macdonald's work. Its study will be of good service to the practitioner; and it will in addition convince the student, that before becoming a good obstetrician, he must first of all possess a sound knowledge of physiology and be a thorough physician.

The last part of the volume is occupied with a discussion on the "Essential Pathology of Puerperal Eclampsia."

The great fault we have to find with it is, that Dr Macdonald theorizes too much on insufficient clinical evidence. It is thus in striking contrast with the part we have already considered.

On post-mortem examination of one of the cases the following points were made out by Mr D. J. Hamilton:—

(1), Marked congestion of dura mater, sinuses, and pia mater; (2), great anæmia of cerebrum, corpus callosum, crura cerebri, left corpus striatum, choroid plexuses; (3), punctiform hæmorrhages in anterior portion of right corpus striatum where it dips to form the *nucleus lenticularis*.

On microscopic examination of the corpora olivaria evidence of subacute inflammation was found. The kidneys presented a peculiar colloid degeneration of epithelial cells. On these appearances Dr Macdonald has formed the following theory:—

The impure blood irritated the vasomotor centre in the *medulla oblongata*. As the result of this there would follow arterial spasm, cerebral anæmia, and consequent convulsions.

We have deemed it best to present the theory fairly to our readers. Dr Macdonald will, however, readily allow us to say that the pathological evidence is as yet insufficient; and that, accordingly, the question of the essential pathology of puerperal eclampsia is still *sub judice*.

The papers on puerperal pleuro-pneumonia are good specimens of Dr Macdonald's careful clinical observation, and direct attention to a most important causation likely to be ignored by the medical man. A careful perusal of the whole volume has convinced us of its great value. We rate the part on cardiac disease, of course, as the best and most trustworthy, although there is some tendency to exaggerate its significance in pregnancy; that on Eclampsia as suggestive, but certainly too theoretical and dogmatic, so far as its clinical and physiological evidence goes. We hope that Dr Macdonald will still continue to work at the subjects he has made specially his own.

Infection-Diseases in the Army: chiefly Wound-Fever, Typhoid, Dysentery, and Diphtheria. By Professor RUDOLPH VIRCHOW. Translated from the German by JOHN JAMES, M.D. Lond., F.R.C.S. London: H. K. Lewis: 1879.

DR JAMES has done service to the profession by bringing this short treatise by the distinguished Virchow within their reach. The translation is sometimes not peculiarly happy, from a want of due attention to the idiomatic niceties of both languages; but this defect might be remedied in a future edition by having a literary expert to superintend the proofs.

It is refreshing and reassuring at any time to have a subject of common interest, such as contagion, brought under the bull's-eye of a man of genius, long familiar with questions of the higher pathology; and we therefore commenced the perusal of this monograph with large expectations. Perhaps, after all, no very considerable result has been reached; but it is well worthy of notice, that so great a master of histology as Virchow does not anticipate much aid to diagnosis or treatment from microscopic investigations of *vibrios*, *monads*, *micrococci*, *bacteria*, etc., with reference to peculiar forms of disease. He emphasises the fact, however, that Billroth's supposed mother plant of all these—*Coccobacteria septica*—is always present in the human body itself, notably in the intestinal canal of healthy persons; so that a primary importation, an infection, or a transference, seems hardly required; it is already at hand, and wants only favourable conditions for propagating and further growing. He adverts in this connexion to the ancient empirical and, on the first aspect, inconsistent method of treatment in Dysentery, viz. the administration of purgatives, which seems to receive in the foregoing statement a theoretical declaration in its favour.

After alluding to the circumstance, that more than one German army has succumbed to the insidious foe of fever in some form, after having victoriously overthrown their human antagonists, and specially before Metz in 1552 and 1870, he shows that in such cases we must not hastily throw the blame either on the soil or on supposed alien poisoning of wells. "It is far more the men themselves, who defile the ground, and thence outwards in all directions through the water and the air, through their excretions, especially urine and ordure."

The author has some suggestive paragraphs on the complexities which beset the whole subject of infection and contagion, and winds up his argument with pointing out that morphology, by itself, can carry us only a certain length, mechanics and chemistry being still more important in such inquiries. "I, who in the beginning of my scientific career, made the hard demand on scientific medicine, to base the demonstration of pathological processes on microscopic research in order to approach these changes at least 300 times nearer, now that one has approximated about 900 or 1200 times near, venture to remember that morphology represents only one side of biology, and that on the other side lies a broad territory of mechanical and chemical processes whose survey requires other means than morphology is able to afford.

He utters these words of warning: "At least once in his life, every scientific man ought to find himself thoroughly abreast of the present stand-point of his department and of the fundamental sciences, otherwise he becomes superannuated before he has scarcely begun to act on his own responsibility."

The Diseases of Tropical Climates and their Treatment; with Hints for the Preservation of Health in the Tropics. By J. A. B. HORTON, M.D. Edin., F.R.G.S., etc. Second edition, revised. London: Churchills, New Burlington Street: 1879.

THIS is a systematic treatise of nearly seven hundred pages, written under difficulties and disadvantages in a hot climate, and deserves to be handled, therefore, with respect and consideration. From its nature and expressed purpose it cannot be expected to contain much that is new; and as the writings of former authors require to be largely quoted, it would be unreasonable to expect that individuality and uniform consistency which lend a charm of freshness to an original work. We cannot pretend to have read the whole volume, but we think that the plan of it is good, and that the author may be safely followed as a guide by those practitioners whose lot is cast in tropical climates. We do not promise them much exposition of general principles, either in Pathology or the Practice of Physic,—these they are presumed to have mastered previously,—but Dr Horton's book will enable them to apply these principles with some confidence, when first brought face to face with unfamiliar and formidable diseases on a foreign shore.

We cordially recommend the *Appendix*, as containing many wise and valuable hints for the preservation of health in tropical climates.

The fact of a second edition being published after the lapse of only four years, is a strong attestation in favour of the book.

The Practice of Medicine among the Burmese, translated from Original Manuscripts; with an Historical Sketch of the Progress of Medicine from the Earliest Times. By KEITH NORMAN MACDONALD, M.D. Erlang., Fellow of the Royal College of Physicians, Licentiate of the Royal College of Surgeons, Edinburgh, etc. Edinburgh: Maclachlan & Stewart: 1879. Pp. 268.

THIS neatly got-up volume in small octavo must have cost the author much care and research, and is therefore very creditable to his diligence and professional enthusiasm. But the questions seem to rise very naturally: *Cui bono? Quid prodest?* The readers must be few who will care to know the follies, the inanities of Burmese medical science, even although they have existed from times anterior to the Christian era; and the latter and larger portion of the book, occupying less than two hundred pages, cannot, in the nature of things, afford a satisfying account of the progress of medicine from the earliest times. There are many other sources from which a fuller and more reliable knowledge can be obtained. It appears to us, that in times near our own, the selection by our author of able and salient men is somewhat capricious, and the account of their work and relative position deficient in accuracy and precision. Two inaccuracies regarding well-known individuals connected with Edinburgh may be mentioned for correction in a subsequent edition. Sir Charles Bell was born not in 1788, but in 1774. Dr John Abercrombie spelt his name with an *ie*, not with a *y*.

The Localization of Cerebral Disease: being the Gulstonian Lectures of the Royal College of Physicians for 1878. By DAVID FERRIER, M.D., F.R.S., etc. London: 1878.

IT is very agreeable when one has written a book, especially if it be of a controversial character, to have another one following after to take the critics in flank, as Dr Ferrier, the Gulstonian Lecturer for 1878, has been able to reply to his adversaries, report the progress the question has made since his book on the brain came out, and propound his gropings and guesses about those portions of brain whose functions are yet unknown.

Dr Ferrier's replies to Brown-Séquard show great skill in argument, and it is likely that few will espouse the side of the latter physiologist. We think that Schiff's objections to Ferrier's views are by far the most difficult to elude. Schiff holds that the motions which can be excited by the application of the electrode to certain parts of the brain are really owing not to direct motor stimuli, but to sensations which are excited at fixed parts of the brain, and being referred to certain members of the body, such as the arm or leg, indirectly cause them to be moved. He argues that the time between the application of the electrode and the movement is too long for a direct motor stimulus. This is a question very difficult to decide.

In the following argument Dr Ferrier is not quite successful. "It has," he tells us, "been proved by the experiments of Putnam, Carville, and Duret, etc., and verified by Franck and Pitres, that in order to excite movements after removal of the cortex, a stronger stimulation is necessary than that required for the cortex itself. This, in the physical condition theory, would be, the less the resistance the less the effect—a proposition manifestly absurd." But Carville himself urged that in removing a section of gray matter oozing of blood from the wound is nearly constant, blood being a good conductor of electricity, so it seems the proposition is not absurd at all.

We think that Dr Ferrier very reasonably objects to experiments on the brains of frogs, pigeons, and other animals dissimilar to man, being used as capable of any but a very loose application to elucidate the functions of the human brain. It may be well to remember that experiments on the motor centres of dogs do not exactly confirm Ferrier's own views. It has been specially noticed by Hitzig and others, that when the so-called motor centres have been abolished, that the result is more a loss of muscular consciousness than an actual loss of motor power, and that the lost function is soon restored, as some suppose, by the vicarious action of another portion of the brain. This has made Hitzig halt and hesitate, and give up using the word "motor centres." The latest observations, such as Obersteiner's experiments upon animals, and Maragliano's studies upon the effects of cerebral lesions, go to confirm Ferrier's views where he differs from Hitzig.

Dr Ferrier insists, reasonably enough, that we ought to lay greater stress on experiments upon monkeys, since the homologies between the simian and the human brain are much more easily made out. Dr Ferrier nowhere refers to the confirmation of his views by the microscopic observations of Betz, who found in dogs, cats, and rabbits collections of peculiar cells at the motor centres, with from seven to fifteen protoplastic processes, similar to those found in the anterior horns of the spinal cord. Dr Ferrier considers that the lobes in front of the coronal suture are connected with the intellectual faculties. Electrical irritation of these lobes causes no motor reaction, and their destruction is not followed by paralysis of motion or loss of sensation, but very often by perceptible injury to the intellectual power. He gives a detailed account of the American crowbar case, in which an iron bar propelled with its pointed end, first entered at the base of a man's upper jaw, and passed out at the top of the head near the sagittal suture in the frontal region. The man never had any paralysis, and within an hour after was able to walk up a long flight of stairs, and give an account of how the accident took place. Dr Ferrier shows that the motor centres could not have been injured, and gives two engravings to illustrate the case. The man's character became totally changed, very much for the worse, so that his friends and acquaintances said that he was "no longer the same Gage."

In his second lecture Dr Ferrier considers lesions of the motor region, which he tells us "includes the basis of the three frontal convolutions with those bounding the fissure of Rolando, viz., the *ascending frontal* or *anterior central* (Ecker), the *ascending parietal* or *posterior central* (Ecker), with its superior continuation termed the *posterior parietal* or *superior parietal* (Ecker) lobule, together with the internal aspect of the same, which by our French brethren is generally called the *paracentral* lobule."

He gives illustrative cases of lesions in these parts being associated with crossed paralysis of various members, and quotes the researches of M. Pitres who, in his recent work (*Lésions du centre ovale*), "has collected a large body of evidence to show that what is true of the lesions of the cortical substance holds also in respect to lesions in corresponding parts of the centrum ovale, a term which he extends to the whole of the medullary substance intervening between the cortex and the basal ganglia." This opens a new and promising though difficult field of research.

It cannot be said that clinical observation has always confirmed the new localizations of the cortical motor tract, and, indeed, instances of the kind turn up even in Dr Ferrier's pages; but we are quite willing to wait for the accumulation of clinical cases carefully observed and free from all possible complications. We are also disposed to agree with him that observations, made by physicians before the convolutions were carefully mapped and described, should not be suffered to be made the basis of sweeping arguments.

Having located the intellectual faculties in the frontal lobes, and the motor centres in the paracentral lobules, Dr Ferrier naturally wishes to find a seat for the sensory perceptions, and the occipital and parieto-temporal lobes being disengaged, what more appropriate than to assign them to sensation? Thus, we shall have the whole outer surface of the head mapped out well-nigh as closely as in the old phrenological busts with their "bumps" and lines to indicate where one mental faculty ended and another began.

From his experiments on monkeys, Dr Ferrier is disposed to place "visual sensation" in the angular gyrus, "auditory sensation" in the superior temporo-sphenoidal convolution, "olfactory sensation" in the lower extremity of the temporo-sphenoidal lobe, taste in the "neighbouring region," while tactile sensation has to go to the hippocampal region, and the "visceral sensibilities" to the occipital lobes. These conclusions labour under a deficiency of evidence, and other observers who have examined the subject have worked out different results. Dr Munk has a quite different set of localities in the cortex for the sensations. "Herman Munk," our author tells us, "has recently asserted that lesions of the occipital lobes cause hemiopia if unilateral, and total blindness if bilateral, but his statements will not bear examination." How kind, then, of Dr Ferrier to refrain from examining them. They certainly repose upon physiological experiments, and are confirmed by the anatomical researches of Meynert and the pathological observations of Fürstner Huguenin and others. Dr Gallopain has given a case where there was congenital absence of the angular gyrus on one side, and it was no bigger than usual on the other, but the sight of both eyes was good. There is no need, however, of seeking out opposing observations, since Dr Ferrier himself records "facts which seem to point to a remarkable and apparently irreconcilable discrepancy between human pathology and experimental physiology."

"To account for this," he writes, "we must adopt one or other of two suppositions; either taking the facts as equally well established, that the parallel which has hitherto been shown to exist between the brain of man and that of the monkey and the lower animals now suddenly ceases to hold, and that, in respect to sensory localization, the brain of man is constituted on a totally different type from that of the lower animals; or, if this be regarded as improbable, that the latency which is said to characterize lesions of the sensory area in man is a latency not so much of actual symptoms as of observation."

We do not purpose discussing this question. Dr Ferrier's speculations about the sensory regions in the cortical substance show much ingenuity. The lectures are most instructive, and replete with the newest views and discoveries on the functions of the brain. Dr Ferrier's scientific style is clear and concise, though somewhat deficient in liveliness. Altogether these lectures form a worthy supplement to his excellent book on the Brain.

Atlas of Histology. By E. KLEIN, M.D., F.R.S., Lecturer on Histology at St Bartholomew's Hospital Medical School; and E. NOBLE SMITH, L.R.C.P., M.R.C.S. London: Smith, Elder, and Co.

THE aim of this work, as stated by the authors in the preface, is to teach "not so much the history of histology, as histology itself in its modern aspects." Judging from a perusal of the first two parts, we have no hesitation in stating our belief that it is well fitted to attain its professed object, and that when completed we shall have a work of the greatest value to all who desire to thoroughly understand the structure of the animal tissues. The illustrations betoken high artistic skill, as well as the accuracy of perception necessary for the delineation of objects histologically, and in the text we have comprised not only an explanation of the illustrations, but also a description of the general characters of the various structures treated of. This latter, which acts as an introduction to each chapter, will we believe add greatly to the general value of the work; indeed, were it not that it might be considered incompatible with the term "Atlas," we could almost wish for a little more information of this kind. The work is to be completed in 10 or 12 monthly parts.

Medicinal Plants. By ROBERT BENTLEY, F.L.S., Professor of Botany in King's College, London, etc.; and HENRY TRIMEN, M.B., F.L.S. Parts XXX.–XXXVII. London: J. & A. Churchill: 1878–79.

WE are glad to see that this work still maintains its high character. It is now approaching completion, and the authors have placed the profession under a deep debt of gratitude for a work of such great excellence and beauty. The plants are carefully illustrated, and the actions and uses of the various drugs are all clearly and succinctly stated.

The *Parts* before us are beautifully illustrated and as accurately described. The work deserves a wide circulation.

Archives of Dermatology: a Quarterly Journal of Skin and Venereal Diseases. Philadelphia: J. B. Lippincott & Co.: Vol. V. No. 1. January 1879.

THIS journal, the only one in the English language devoted exclusively to skin and venereal diseases, with the present part starts afresh under new publishers, who promise to spare no efforts to increase its usefulness. Its principal editor, Dr L. Duncan Bulkley, is well known as one of the most active workers in cutaneous medicine in America, and he is aided by a large and well-appointed staff of assistants. Dr Duhring contributes to this number a very full account of a case of inflammatory fungoid neoplasm,—a rare and curious skin affection hitherto only observed by Hebra and Geber. An excellent article on "Urticaria pigmentosa," by Dr Morrow, follows, who reports a good case of this disease, at present attracting considerable interest, and gives a careful *résumé* of the literature of the subject. We note also papers on "Acne in Millworkers," by Dr Purdon of Belfast, and on "Leprosy in Minnesota," by Dr Grönvold. An admirable feature is a classified index of all recent papers on Skin Diseases and Syphilis, attached to the digests of the literature of these subjects, prepared by the joint editors.

Materia Medica and Pharmacy for the Use of Medical and Pharmaceutical Students preparing for Examination. By W. HANDSEL GRIFFITHS, Ph.D.; and Edited, and in part written, by GEORGE F. DUFFEY, M.D. Dublin: Fannin and Co.: 1879.

AT the time of the lamented death of Dr Griffiths this work was entrusted to the care of Dr Duffey, lecturer on Materia Medica in the Carmichael College of Medicine, Dublin; and it was fortunate that so valuable a work fell into so good hands. Dr Duffey was well able to perform the duties of editor, and he has succeeded in producing a book of great value to the profession.

It is chiefly a work on Materia Medica as distinct from Therapeutics. The author believed, and we think most correctly, that Materia Medica and Therapeutics should be separated in the student's curriculum.

We thoroughly agree with the following words from the preface:—"Materia Medica proper and Pharmacy should be taught in the earlier period of the student's curriculum, and Therapeutics should be taught concurrently with Pathology and the Practice of Medicine." This is the general opinion of teachers of this department of medicine, and the publication of this work will help to hasten on this much-needed reform in medical education. The work is divided into two parts, Materia Medica and Pharmacy.

Under Materia Medica the various substances of the British

Pharmacopœia are systematically arranged, and their characters and tests are clearly stated and well explained.

Under Pharmacy are given the various pharmacopœial preparations. These are fully explained, and no student can peruse this portion of the work without deriving great benefit.

In an Appendix are given—I. Articles employed in Chemical Testing; II. Test Solutions and their chief Uses; and III. Test Solutions for Volumetric Analysis. To which is added an excellent chapter on Weights and Measures.

We have much pleasure in highly commending this work to the notice of the profession, especially to teachers and students of Materia Medica; and when the time shall come that Materia Medica and Pharmacy shall be taught separately from Therapeutics, this book will undoubtedly become a standard text-book on Materia Medica.

We wish it a wide circulation.

THE BOSTON SOCIETY FOR MEDICAL OBSERVATION

Part Third.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION LVIII.—MEETING VI.

Tuesday, 4th March 1879.—Dr SANDERS, *President, in the Chair.*

I. *Professor Annandale* showed (1.) A WOMAN on whom he had performed THYROTOMY. She had previously been seen by Dr Blair Cunynghame and Dr Wyllie, who by laryngoscopic examination detected papillomatous growths in the larynx. When Dr Wyllie saw her she had difficulty in breathing, and accordingly he (Mr Annandale) performed tracheotomy. Three weeks afterwards he did thyrotomy, and by thus exposing the larynx thoroughly removed by the thermo-cautery two growths, each the size of a cherry. The thyroid cartilage was stitched with catgut, and the skin with silk. The tube was removed on the third day; the result was good, although the voice was a little weak. The noteworthy points about the case were the previous performance of tracheotomy, and the method of preventing blood passing down the larynx during the operation, viz., by allowing the head to hang over the table. (2.) A young man from whose leg he had excised a VARICOSE VEIN. The peculiarity in the case was, that there was no varicose vein elsewhere, so that it was specially favourable for an operation such as performed by Mr Marshall of University College, London, in 1875. Mr Annandale made a vertical incision over the vein from the popliteal space to the ankle. He then dissected out the vein, except the portion over the shin. In this way about sixteen inches of vein were removed. He had previously in another patient excised the vein in varicocele.

II. *Mr Annandale* then read SUSPENSION AS AN AID TO SURGICAL DEMONSTRATION AND PRACTICE, which appears on page 1001 of the Journal for May.

Dr John Duncan thought there was little room for discussion on Mr Annandale's paper, as none of those present had any experience of the plan described. In some circumstances it would be good, especially in the removal of large tumours, and in general for ease of manipulation and Infirmary demonstration. He felt doubtful, however, if they could introduce the gallows into private practice.

The *President* thought Mr Annandale's method of suspension and demonstration good, as it did away with assistants, who were always more or less in the way. He had seen Jobert of Paris use large hooks for holding tumours during their removal; but Mr Annandale's plan of suspension was much better, especially for tumours of large size.

Dr Miller and *Mr Annandale* also made remarks.

III. *Professor Simpson* then read a CASE OF BATTEY'S OPERATION, of which the following is a brief abstract:—M. K., æt. 35, had suffered from severe dysmenorrhœa during the whole of her menstrual life. She had been long under the care of the late Dr Carmichael, and Sir James Simpson had divided the cervix, but without any relief. He (Dr S.) had tied internal piles, from which she suffered, with some benefit. Still, however, the dysmenorrhœa continued and he therefore ultimately performed Battey's operation removing both ovaries, on June 10th 1878. He got access by an incision in the *linea alba,* and ligatured them by means of carbolized silk. Antiseptic precautions were employed. The patient made a good recovery and was now greatly benefited, although some irregular menstruation still occurred. Dr Simpson concluded with a summary of what was known of the history of this operation, and gave a carefully compiled table of the known cases with the indications for the operation, as well as the results in each case.

Mr Bell thought the Society was greatly indebted to Professor Simpson for his most interesting communication; and he wished to congratulate him most heartily on his success and on his being the first to perform Battey's operation in Scotland. Since 1872 he had taken great interest in normal ovariotomy. At first he was dead against it, because he thought some of the early operations unnecessary, and because only one ovary was removed. Then, further, he did not see how the operator could, *per vaginam,* do his work efficiently and arrest hæmorrhage thoroughly. As performed, however, by Hegar, Thomas, Simpson, and others, it was good and scientific, because by the single suprapubic incision the operator could see what he was doing, had plenty of room, avoided large bloodvessels, and could carry out strict antiseptics. As to the selection of cases, that could be left in the hands of the eminent gynecologists who had studied the matter. The statistics given by Dr Simpson were certainly not very encouraging; and for an operation *de complaisance*, too great. Having regard, however, to the wonderful statistics of ovariotomy, he had no doubt that the mortality in Battey's operation would diminish, especially as the bad vaginal incision, responsible for much of the mortality, was now given up. The Society was certainly indebted to Dr Simpson for his clear account of this interesting operation.

Dr Wyllie asked if the patient's beard had grown.

Dr M'Gibbon commented on the wonderful success Dr Keith had attained by performing his ovariotomies antiseptically.

Dr J. M. Cotterill wished to know on what grounds Dr Simpson had used silk ligatures instead of catgut.

Mr Chiene asked in reference to Professor Simpson's proposal to strangulate, what would be the result if the ovary so treated did not die.

Professor Annandale cordially congratulated Dr Simpson on the success of his important case. In regard to the mortality after Battey's operation he did not think they were justified in classing that of ovariotomy with it. His experience in regard to peritoneal operations was that a great deal depended on the condition of the peritoneum. In many cases it was thickened, whereas in Battey's operation it was normal, and therefore more liable to peritonitis. In regard to retaining the ovary after ligaturing it, he was against the proposal, as he had found in hernia operations that the sac died when the neck was ligatured. He therefore now always cut the sac off after ligature.

Professor Simpson thanked the Society generally, and specially those members who had taken part in the discussion, for the kind reception given to his communication. Mr Bell thought the mortality was excessive and blamed the vaginal incision for it. The mortality was, however, almost equal, so far as the vaginal and abdominal incisions were concerned; and they could thus compare facts with theory. As to what Dr M'Gibbon had said about antiseptics, they should remember that mere antiseptics was not the only point to be attended to for success. The best ovariotomists knew that a great deal depended on the state of the patient and the condition of the abdominal cavity. Mr Annandale had alluded to this point when speaking of hernia. In cases of oophoritis, however, inflammation was often present, as in his case. Mr Bell had condemned two abdominal incisions, but Dr S. had recently a case where both ovaries were subcutaneous and so far apart, that he quite saw how Hegar in some cases preferred a double incision. Mr Annandale had stated his belief that the snared ovary should not be left. They should remember, however, that this point had not been settled; we did not know whether or not the ovary would retain its vitality, short of a continuation of ovulation. This was quite a question for the physiologist to settle. Dr Wyllie would find details in Koeberle and Spencer Wells as to changes in patients' appearance, etc. He had used carbolized silk in preference to catgut, because it had been found that the latter slackened. He, himself, was interested in the question of the behaviour of the silk ligature, as he had in a recent ovariotomy with large organized adhesions ligatured the pedicle, and passed silk round the adhesions. There were thus fifteen silk ligatures left in the patient, who was now well. In his present case he could feel no tumour at the site of the ligatures.

OBSTETRICAL SOCIETY OF EDINBURGH.

SESSION XXXVIII.—MEETING VI.

Wednesday, 26th February 1879.—Dr WILSON, *President, in the Chair.*

I. *Dr Playfair*, in the unavoidable absence of *Dr Macdonald* from indisposition, showed an OVARIAN TUMOUR removed by Dr Macdonald from a patient in the Royal Infirmary on Saturday forenoon. The tumour was multilocular, containing two large and numerous smaller cysts, with solid matter. Dr Macdonald at first hesitated to operate in consequence of the presence of inflammatory action in the cyst, and because the patient suffered from considerable bronchial catarrh. After aspirating 104 ounces from one of the cysts, the patient's general condition improved a good deal. The operation, when decided upon, proved less troublesome than was expected, because, though the main cyst was intensely congested and very fragile, there were no adhesions. The peritoneum was deeply congested. The operation was conducted under the strictest antiseptic precautions, and the pedicle was treated by cautery, and dropped into the abdomen after the manner which has proved itself so successful in the hands of Dr Thomas Keith. The patient was doing very well. The temperature has been for two days normal, and never rose at any time since the operation to a higher point than 99°·8. The tumour and its contents weighed twenty pounds.

II. *Dr Wilson* showed a FŒTUS and PLACENTA from a case of accidental hæmorrhage, which somewhat resembled that brought before the Society by Dr Macdonald at last meeting, but, he was thankful to say, with a different result.

III. *Dr Buist* showed a FATTILY DEGENERATED PLACENTA. Movement had ceased about a week before the child was born.

IV. *Dr Buist* showed the FLUID from a VAGINAL CYST. There were two drachms in quantity. It was clear and watery when first removed.

V. *Professor Simpson* read a paper entitled HEAD FLEXION IN LABOUR, which appeared at page 865 of the Journal for April.

Dr Underhill commended the paper as one of high value and scientific interest.

Dr Young had listened with great pleasure to the paper. He thought there was not room for much discussion, as to him the facts were conclusive.

MEETING VII.

Wednesday, 12th March 1879.—Dr WILSON, *President, in the Chair.*

I. *Dr Croom* read a short paper, entitled NOTE ON SENILE PROLAPSUS.

The *President* thanked Dr Croom for his communication.

Dr Underhill thought the Society was indebted to Dr Croom for his observations and for showing Thomas's pessary. He had never made use of the instrument, but would take an early opportunity of doing so, and from the way Dr Croom had commended it he anticipated favourable results from its use.

Dr Keiller felt indebted to Dr Croom for his paper. He had always found a difficulty in dealing with these cases, especially in elderly women, in whom the perineum was more or less destroyed. He had tried almost all kinds and all forms of pessaries. He had also had recourse to various operative procedures for the relief of this distressing condition, such as removal of the redundant vaginal mucous membrane, but with varying success. Referring again to pessaries, he thought one of their chief faults was their tendency to fall out, to remedy which many supports might be tried. The circular pessary introduced by Dr Charles Bell to this Society, with its external limb resting on the pubis in a fixed point, was an excellent one in many cases. In many old women labouring under symptoms of prolapsus constriction of the vagina exists, and in such cases a pad with bandage externally will be often found sufficient. He alluded to the evils of too long retention of pessaries, and detailed a case in which the instrument became imbedded in the vaginal wall, was the cause of a fœtid discharge, which was mistaken for that arising from malignant disease, and it was necessary to cut it out before extraction could be effected. This case terminated fatally.

Dr James Young had seen many cases of prolapsus. In regard to Thomas's pessary, he had the opportunity of using one lately in a case of anteversion. The pessary had not a fixed bar similar to the one exhibited by Dr Croom. The two bars were pressed together after being introduced, rendering it almost impossible to place the cervix between. With Dr Croom's pessary he anticipated no difficulty, as the anteversion bar was fixed and could not be put in contact with the posterior shoulder, either before or after its location in the vagina.

Dr Croom thanked the Society for the reception of his paper. He had nothing further to add, except to say that he quite agreed with Dr Keiller as to the inutility of pessaries in constriction of the vagina.

II. *Dr Foulis* then gave a demonstration, which was illustrated by numerous diagrams and drawings, as well as microscopical preparations, of his further researches on the DEVELOPMENT AND STRUCTURE OF THE OVARY.

Dr Hart expressed for Professor Simpson his great regret at having to leave the meeting before the conclusion of Dr Foulis's demonstrations. Dr Hart considered there could be little doubt of the correctness of Dr Foulis's conclusions as to the origin of the cells of the follicular epithelium from the cells of the stroma of the ovary. He referred to a diagram published many years ago by Leopold, purporting to support Waldeyer's view, but in reality he believed it was strongly confirmatory of the correctness of Dr Foulis's observations.

Dr Underhill had listened with very great pleasure to Dr Foulis's clear demonstration. In regard to the great point of dispute, what comes of the germ epithelium which is not developed into primordial eggs, he quite agreed with the conclusions of Dr Foulis, that the connective tissue-stroma supported the growing ova. Dr Foulis's last observations on the peculiar form taken by the cells on the outside of the ovum was full of interest.

Dr Keiller reminded the Society of the former occasion on which Dr Foulis had favoured them with an able communication on the early formation and development of ova in the ovary—a subject of minute investigation, with which the name of "Foulis" had now become most honourably associated. Dr Foulis had taken a place in the foremost ranks of "ovologists;" his researches and observations had not only attracted the special attention of the most eminent ovarian expounders, but have been freely acknowledged by the ablest of our living physiologists to have led to a change in the views they had long cherished and taught in regard to the development of ova and the histology of the ovary. Dr Keiller was present at the meeting of the Royal Society when Professor Turner communicated Mr Foulis's novel views on the ovary and ova, and had the satisfaction of hearing Dr Allen Thomson—an authority of high order on ovology—express his entire acceptance of the conclusions which Dr Foulis had then arrived at, and which the further and still more convincing communication now given seemed so fully to establish. It was gratifying to hear Dr Foulis again extol the name and fame of an old friend and fellow-student in the well-remembered "Brown

Square School" of this city, and he confessed at now thinking back with no small feeling of pride at having then successfully competed for a special anatomical prize with one whose early and special researches he had frequently witnessed, though with too little appreciation of their intrinsic and prospective value; he alluded to Martin Barry, whose views as an accomplished "ovologist" Dr Foulis, by his own independent and more recent investigations, had found to be, as he had told us, wonderfully correct. After listening to the able exposition we had just heard, and seeing the beautiful preparations and drawings exhibited in illustration of the formation of the ova and Graafian follicles, no one present could reasonably doubt the truthfulness of the views entertained and so clearly demonstrated by Dr Foulis, who had indeed honoured the Society on this as well as on former occasions by favouring us with an early communication on the important results of his laborious research. This Society, therefore, being specially indebted to Dr Foulis for his extreme attention to and great enlightenment on an organ—but for which there could neither be obstetrics nor obstetricians, and consequently no Obstetrical Society—he (Dr Keiller), as the senior member present, had the utmost pleasure in proposing that a cordial vote of thanks be now given to Dr Foulis for his extremely interesting and important contribution.

The *President* warmly thanked Dr Foulis for his interesting and instructive demonstration on this difficult subject, which he had now made peculiarly his own.

Dr Croom having expressed his high appreciation of Dr Foulis's researches,

Dr Foulis thanked the Society for the cordial reception he had met with, and stated his intention of pursuing his investigations still further, and also of taking up the structure of the testicle, which, however, as a tubular gland, differed very materially from the ovary.

THE BOSTON SOCIETY FOR MEDICAL OBSERVATION

Part Fourth.

PERISCOPE.

MONTHLY RETROSPECT OF OBSTETRICS AND GYNÆCOLOGY.

By Angus Macdonald, M.D.

A Fatal Case of Partial Inversion of the Uterus at Labour is recorded by Mr E. W. Sawyer of Chicago, in the *Chicago Medical Journal* for January 1879.—The case appears to us interesting as exhibiting the manner in which this accident may be initiated and maintained. It would appear from the record that the inversion was started by ill-directed pressure upon a flaccid fundus;

but that so soon as the accident was established, active uterine action came on and aggravated and maintained the abnormal condition. The latter state was also probably intensified by the administration of ergot. It was found impracticable to reduce the dislocated fundus. The patient died partly of shock and partly also from the effects of hæmorrhage, which at first had been rather smart, about 2½ hours after delivery.

A CASE OF PUERPERAL CONVULSION WITH A LONGITUDINAL RUPTURE OF THE UTERUS, extending from the cervix along the left side of uterus about eight inches, but which terminated favourably, is recorded in the December number of the same Journal by Dr A. C. Rankin. The child had passed into the abdominal cavity by nearly one-half of its body. After the child had been delivered by turning, the placenta and membrane were found in the abdominal cavity and removed along with some blood clots. Their removal was followed by prolapse of about a foot of small intestine, which was replaced, and the operator's hand held against the sac until the uterus was made to contract powerfully. *Mirabile dictu!* The patient did well, and has since been easily and successfully delivered of a healthy child at term.

PUERPERAL VAGINITIS AND LACERATION AS CAUSES OF VESICO-VAGINAL FISTULA is the subject of a valuable paper by Dr Byford in the February number of the *Chicago Medical Journal*. In this article the author maintains that the destruction of the vesico-vaginal septum seldom results from sloughing as a direct result of the long-continued pressure of the head during a tedious labour, but usually from ulceration set up by the high degree of congestion and inflammation in which the tissues are left after delivery. This view he supports by reference to the fact that the fistula is seldom established immediately after delivery, but usually takes about nine days to form. At least, out of 161 cases observed by Dr Byford, the urine did not appear in the vagina till nine days after labour. The ulceration, he argues, is greatly facilitated by a distended bladder. In order to prevent this accident, when threatened, Dr Byford recommends retention of a Sims catheter in the bladder, to which is attached a tube to carry off the urine as it forms; to avoid distention of the rectum by first washing out the organ with water, and then introducing within it an elastic tube to prevent accumulation of flatus; to throw injections of hot water into the vagina from four to six times daily; to apply various stimulating applications to the ulcerated surface, if such appear. The spot to which special attention should be directed is on the uterine wall behind and a little to the left of the symphysis, where the perforating ulcer is most frequently found. Meanwhile the general strength of the patient should be sustained by ferruginous and other tonics.

PUERPERAL LACERATION OF THE CERVIX-UTERI AND THE OPERATION OF TRACHELORAPHY AS A MEANS OF CURE, is the subject of a paper in the March number of the above journal by Dr E. C. Dudley. In this contribution the author, following up the recent observations on this subject by Mundé, strongly advocates Emmet's operation for the removal of so-called cervical erosions, when these arise, as he maintains they usually do, in consequence of lateral cervical tears. He likewise attempts to explain the mechanism of the formation of the ectropien cervicis occasioned by these lacerations, which the author holds have been erroneously described as cervical erosions, ulcerations, granulations, etc. It is only the lateral tears that lead to ectropion. The method of cure proposed is, *first*, to reduce congestion by mild local applications, employing the hot douche twice daily for some twenty minutes at a time, and puncturing the Fallopian follicles that are found on the reddened surface; and, *secondly*, to raw the edges of the torn surfaces, and bring them together with silver sutures. The author complains bitterly of the neglect which Emmet's operation has hitherto met with at the hands of British and Continental gynæcologists. The success of the operation Dr Dudley maintains to be very great indeed.

THE DIAGNOSTIC PUNCTURE OF ABDOMINAL CYSTS WITH SEROUS CONTENTS OF LOW DENSITY, forms the subject of an interesting contribution by Spiegelberg, *Archiv für Gynäkologie*, bd. xiv. s. 175, in which he argues that not only in the case of cysts of the broad ligaments, but even in ovarian cysts, the existence of a fluid of low density and serous nature may be taken as evidence that the cyst wall has ceased to grow actively, and is being merely distended by gradual accumulation of its contents. In such cases, he holds that operation should not be performed, as it is more than likely that after puncture the cyst wall will atrophy, and the ovarian disease disappear.

ADDITIONAL ANATOMICAL CONTRIBUTION TO THE QUESTION OF THE CONDITION OF THE CERVIX DURING PREGNANCY, is the title of a paper by H. Langhans and P. Müller, at page 184 of the above journal. It consists of the description of a dissection, and concludes with the following statement of results:—

"In the entire cavity of the uterus, from the fundus down to a circular line, which is situated at a distance of one-fifth of an inch from the edge of the upper opening of the cervical canal, there is found a structure completely similar to the fœtal envelopes derived from the maternal tissues. At the line mentioned there occurs a separation in the fœtal envelopes derived from the maternal tissues. The reflexa and vera firmly united up to this line become separated, the former follows the chorion, the latter the uterine wall, down to the upper cervical opening, and in this situation it possesses completely the same structure as in every other part (of the interior of the uterus). There is no epithelial lining present on it. No reason for regarding this part as cervical mucous membrane can be drawn from the above-recorded examination. At the spot where the vera reaches the upper cervical opening, it forms a distinct elevation, on the lower surface of which, *i.e.*, the surface which looks towards the cervix, there are found glands with the usual character of those of the cervix (complete covering of unaltered cylindrical epithelium and mucous contents). This sharp limit in the behaviour of the glands in the apex and lower surfaces of this elevation must needs, in the first place, support the hitherto generally accepted view, according to which the upper cervical opening is really the internal os uteri.

OBSERVATIONS ON THE ECLAMPSIA QUESTION is the subject of a specially interesting article, Bd. iv., H. 1, *Zeitschrift für Geburtshülfe und Gynäkologie* by Dr Herman Lohlein.

The observations were founded on an analysis of 106 cases of eclampsia, 93 of which occurred at labour, 5 during pregnancy, and 8 after completion of delivery. The following are the chief conclusions arrived at by the author:—

1. We almost always find a defective, not seldom a suddenly impaired or interrupted secretion of urine.

2. Next to this we find frequently cardiac hypertrophy, especially of the left ventricle, which certainly does not reach a very high degree, but yet plainly points towards the frequency of intensified arterial pressure.

3. Changes which prove that the increased arterial pressure (with perhaps slight transudation of the blood) had led to œdema, and thereby on to the convulsive disturbances, were several times —but yet only exceptionally—to be observed.

4. The considerable number of the almost completely negative cerebral results support the assumption that anæmia of the motor centres, which must be regarded as the ultimate exciting cause of the clonic and tonic spasms, is induced frequently by purely functional disturbances in the afferent vessels.

5. In this connexion many facts tend to support the view that a spasmodic condition of the cerebral arteries must be looked upon as the result of blood-poisoning and as the cause of the convulsions, as Bidder, Spiegelberg, and Macdonald do. The irritation of the vaso-motor centres occasioned by the accumulation in the blood of excrementitial materials, which, with the above-mentioned authors, we assume, will, in a certain class of cases, produce directly vascular spasm, in other cases may operate only as a predisposing cause, whilst the ultimate stimulus to the convulsion (occasionally) will be established by the irritation of the commencing pains, the painful compression or rupture of the soft parts, etc.

6. When on review of the various extremely different ætiological forces, which in a recognised proportion of cases favour an outbreak, we find as common to all of them that they are especially calculated to impede the secretion of urine or to make the process of delivery specially painful, or to do both at the same time.

In 8 out of 31 fatal cases Lohlein found dilation of the right ureter present.

ON THE DIAGNOSIS OF LARGE OVARIAN TUMOURS.—Under this title Schultze contributes a short paper to No. 6 *Centralblatt für Gynäkologie*, March 1879. The improvement in diagnosis which the author insists upon is to practise the combined exploration with one or two fingers in the rectum and the other hand upon the lower part of the abdomen more completely than has usually been practised hitherto. For this purpose he recommends to chloroform the patient and to have the tumour well pushed and held up by an assistant. This being done, its connexion with the uterus and pelvis can, he says, be made out very accurately.

THE ACTION OF SCLEROTINIC ACID is the subject of an original article by Dr Kohert, of Halle, in No. 10 of the same journal. In direct contradiction to the observations of Nikitin in Rosbach's pharmacological observations, Kohert maintains that this substance is entirely useless.

MONTHLY REPORT OF THE PROGRESS OF THERAPEUTICS.

By WILLIAM CRAIG, M.D., F.R.S.E., Lecturer on Materia Medica, Edinburgh School of Medicine, etc., etc.

A NEW REMEDY FOR DYSENTERY.—According to the *Indian Medical Gazette*, a new and very efficacious remedy for dysentery has been found, which, if somewhat inferior to ipecacuanha, possesses the advantage over it of being free from nauseating effect. It is the root of a plant called Rungun in Bengalee, and found to belong to the genus Ixora of the Natural Order Cinchonaceæ. The species that have been tried are the *I. bandhuca* and *I. coccinea* (Phoxle). The plant is a very common one, and is most efficacious when employed in its fresh state. An extended trial of its efficacy has been directed by the Surgeon-general.—*The Medical Press and Circular*, 16th April 1879.

ETHYLATE OF SODIUM.—Dr Purdon has been recently trying the ethylate of sodium in the Belfast Skin Hospital. His first case was that of a nævus situated in the forehead, communicating through the bone with the cerebral circulation. The patient was a boy, aged three years; the nævus being about the size of a small walnut. Four applications of the ethylate of sodium removed the deformity. The author agrees with Dr Richardson in believing that the remedy is a specific for nævus. He has also removed a small patch of cutaneous cancer on the lower lip by the ethylate; whilst three cases of lupus and one of warty growth on the back of the hand are progressing satisfactorily under treatment. The four results obtained by the action of the ethylate of sodium, viz., first, removal or absorption of water from the tissue into the ethylate; secondly, distinctive action of a caustic from the caustic soda that is formed; thirdly, coagulation from the alcohol that is produced; and fourthly, prevention of decomposition of the dead organic substance that is formed—were observed in the case of nævus (*The Lancet*, 5th April 1879).—*The Practitioner*, May 1879.

TREATMENT OF ASTHMA BY IODIDE OF POTASSIUM SPRAY.—Dr Everard of Orsennes has obtained very satisfactory results in a severe case of asthma from the use of a spray of iodide of potassium. The patient, a man thirty years of age, had suffered for eight months from daily attacks of asthma, and had also been subject to chronic bronchitis for five years. At the time the treatment was begun he had three or four attacks a day, and was reduced to a pitiable condition. After assiduous use of the spray for eight days, the asthmatic attacks had almost entirely ceased. Eighteen months have elapsed since then, but the patient has continued to use the spray, and the attacks have not recurred. The strength of the solution used was 1 to 20. The periods of inhalation were short, but frequently repeated—the quantity of the drug thus administered by the bronchi being about the same as that given internally by Professor Sée, namely, 1·5 to 3 grams (23–46 grains) per day.—*The Medical Press and Circular*, 16th April 1879.

MONOBROMATED CAMPHOR AS A HYPNOTIC.—Frankhauser, in the *Deutsche Medicin. Woch.*, recommends monobromated camphor as a hypnotic in cases in which the narcotics proper are not borne, or in which they have lost their efficacy from long use. The doses required to produce sleep (he gives generally 2 to 2½ grains in powder) are entirely harmless; unpleasant effects—such as a feeling of fulness in the head, nausea, excitement—occur but rarely, and even then are only transitory. In most cases the drug is well borne, even though gastric catarrh, cardialgia, etc., exist. The hypnotic effect follows rapidly, as a rule; and in many cases, even when the drug has been used repeatedly, lasts for a considerable time. In other cases it passes off in a relatively short period. In some cases these small doses refused to produce sleep, but it is probable that larger doses would have been more successful. Three and three-quarter grains, and even more, have been given without injury.—*Medical Press and Circular*, 16th April 1879.

BORACIC ACID IN SKIN DISEASES—Professor Neumann, who has for some years past made great use of borax ointment, has recently endeavoured to bring boracic acid into use in the treatment of diseases of the skin. He prescribes an aqueous solution in parasitic diseases; an alcoholic in the itching consequent upon urticaria and puritus; the ointment in all forms of eczema. Combined treatment with soapwash and tar is necessary in infiltrated forms of eczema. Aqueous and alcoholic solutions are applied by means of a sponge or brush, or the remedy is dusted over as a powder. In pityriasis and herpes tonsurans solutions of 10–20: 300, with the addition of 2·5–3·0 oil of cloves; in eczema, a salve of 10: 50. An infusion of cloves may be added to the alcoholic extract. (*Der practische Arzt*, July 1878).—*The Practitioner*, May 1879.

AURAL PERISCOPE.

By J. J. KIRK DUNCANSON, M.D., C.M., F.R.C.P., and F.R.S., Edinburgh, Surgeon to the Ear Dispensary, 6 Cambridge Street, Lothian Road; Assist.-Surgeon, Eye Infirmary; Lecturer on Diseases of the Ear, Edinburgh School of Medicine.

THE *Chemist and Druggist* gives the following account of an experiment in opium-smoking, made by Dr Miclucho Maclay upon himself during his stay in Hong Kong:—The experiment was made at the Chinese Club, where every convenience for smoking opium is to be found. Dr Clouth, of Hong Kong, took the necessary observations, and his notes are recorded below. These may be summarized as follows:—Herr Maclay was in normal health, and had fasted eighteen hours before commencing the experiment. He had never smoked tobacco. Twenty-seven pipes, equivalent to 107 grains of opium, used by the Chinese, were smoked in two and three-quarter hours, at tolerably regular intervals. The third removed the feeling of hunger caused by his long fast, and his pulse rose from 72 to 80. The fourth and fifth caused slight heaviness and desire for sleep, but there was no hesitation in giving correct answers, though he could not guide himself about the room. After the seventh pipe the pulse fell to 70. The twelfth pipe was followed by singing in the ears, and after the thirteenth he laughed heartily, though without any cause that he can remember. Questions asked at this time were answered only after a pause, and not always correctly. He had for some time ceased to be conscious of his actions. After the twenty-fifth pipe questions asked in a loud tone were not answered. After the last pipe had been smoked he remarked, "I do not hear well." Forty minutes later there was a slight return of consciousness, and he said, "I am quite bewildered. May I smoke some more? Is the man with the pipe gone already?" Fifteen minutes later (4.55 P.M.) he was able to go home, and then retired to bed. He woke the next morning at 3 A.M. and made a hearty meal, after his fast of thirty-three hours. During the next day he felt as if he had bees in a great hollow in his head, as well as a slight headache. The organs of locomotion were first affected, next came sight and hearing, but Herr Maclay is very positive that there were no dreams, hallucinations, or visions of any sort whatever.—*Nature*, 27th March 1879, p. 492.

ACADEMY OF SCIENCES, *Paris*, 17*th March*.—"On the correspondence between Chladni's acoustic figures and liquid systems produced on vibrating circular plates," by M. Decharme.—"New experiments on telephones without a diaphragm," by M. Ader. He gets better results than with an ordinary telephone from a thin piece of wire (with a small helix round it) fixed at one end in a wooden board (a microphonic speaker being used), better if the two ends are in contact with metallic masses. Voice is reproduced, too, from a mere bobbin without core, if the windings are very free.

He supports M. du Moncel's view that the sounds in the telephone are from contractions and elongations of the magnetic rod.—M. du Moncel described some observations in the same sense.—M. Resis presented a note on a hydro-electric telephone, in which the variations in intensity of the current are reproduced by variations in resistance of a liquid column, which serves as receiver (without any electro-magnetic organ).—"Morphology of the Dental Follicle in Vertebrates," by MM. Legros and Magitot.—"Pathogeny and Treatment of Intermittent Convergent Strabism, without Operation, by use of Mydriatics and Myosics, in Children," by M. Boucheron.—*Nature*, 27th March 1879, p. 500.

LET me plead also for the remission of the abuse of the steam-whistle at starting and at all times; any musical explosive short note is as quickly interpreted as a long scream. One of the problems of the present day is to avert noise, and screen from annoyance our auditory nerves, the most sensitive and delicately hung brace of strings; and yet even now in London, in addition to the inevitable reverberation of traffic and hum of buisness, the patient brain-workers have to endure the Italian organ-grinder, the muffin-bell, the mendacious shouts of newsmongers, and the live-long day and night penetrating shrieks of the engine host.—*Abstract of a Lecture on the Surgical Aspect of our Present Mode of Railway Travelling*, delivered 21st February 1879, by Richard Davy, M.B., F.R.C.S., Surgeon to Westminster Hospital.

MEASURING THE VELOCITY OF SOUND IN AIR.—The following simple way of arriving at the velocity of sound in air occurred to me lately:—Standing on a straight staircase between two blank walls (brick, and papered), which I find to be 32½ inches apart, I clap my hands. The effect from each clap is a brief musical sound, metallic in character, and of quite appreciable pitch. It arises, doubtless, from the disturbance travelling to and fro between the walls. The pitch I find to be, as nearly as possible, G sharp (in the fourth space). Now, the number of *complete* vibrations per second, corresponding to this note, seems to be about 205 (see Deschanel's *Natural Philosophy*, p. 820). This implies that the disturbance, when I clapped my hands, made 410 excursions across the space per second. Consequently 410 × 32½ = 13,325 inches = 1100 feet. This is exactly the number Deschanel gives as the velocity of sound in air at 50° (approximately our mean annual temperature).—*Nature*, 10th April 1879, p. 529.

INARTICULATE PROFANITY.—At the Aberdeen Police Court—Bailie Ross on the bench—James Williams, a vagrant, was charged with having on the 18th inst. conducted himself in a lawless and disorderly manner in a house in Ship Row, and used profane and abusive language. By signs he pleaded guilty. Mr Cadenhead, the procurator-fiscal, stated that Williams was deaf and dumb. There was a saying that "the devil helps a dumb man to swear"—(laughter)—and though Williams did not actually utter the language described, his gestures and incoherent cries had amounted to as much. Seventeen previous convictions having been libelled against him, he was fined £1, with the alternative of fifteen days' imprisonment.—*Scotsman*, 21st April 1879.

Proposed Methods of Measuring the Relative Intensities of the Sensations of Sound.—To obtain measures of the intensities of sonorous sensations, so that the otologist may trace the changes in the audition of his patient with his treatment, I propose the following plans:—A closed organ-pipe (say C'', of 512 v. per sec.) of metal, with the parts of its embouchure of fixed and definite dimensions, is mounted on a rod away from reflecting surfaces, and is blown with air of a constant and definite pressure. Opposite the mouth of the pipe is a resonator accurately tuned to the pipe. This resonator slides along a horizontal scale, so that the distance of the plane of its mouth from the plane of the mouth of the organ-pipe can be readily measured. A tube leads from the nipple of the resonator to a distant room, where the patient's ear is to be tested. From experiments on normal ears it can be decided at what distance of the resonator from the pipe the sound of the latter is generally audible. This distance we will call the unit distance. The patient's ear will then be tabulated, in its appreciation of sound, in fractions of this unit distance, or, better, in fractions of intensity, by stating the condition of his ear in terms of the *square* of the fraction of the unit distance at which he just ceases to perceive the sound of the pipe. Thus, if the patient loses the sonorous sensation at $\frac{1}{2}$, $\frac{1}{3}$, or $\frac{1}{4}$ of the unit distance, his hearing is tabulated respectively as $\frac{1}{4}$, $\frac{1}{9}$, or $\frac{1}{16}$ of the normal perception. The pitch of the pipe, the material out of which it shall be constructed, the dimensions of the parts of its embouchure, its length, diameter, form, and the pressure in inches of water of the blast of air which sounds it, can be determined upon by a congress of otologists, so that their observations will be comparable everywhere. The tube leading from the resonator to the ear of the patient need not be all of rubber; its terminals may be constructed of this substance, while its intermediate portion may be of tin tubing. For the successful practice of this method it is necessary that the room in which the sound is generated should not have reflecting walls and roof, and should be devoid of resonance. To obtain this condition is only a matter of expense: a small room whose floor and walls are covered with rubber-cloth, or felt, saturated with some fluid like glycerine, will give them. I have experimented with the apparatus just described, and will await the decision of otologists as to its value to them. I have found a C'' (512 v. per sec.) pipe to be of a convenient and natural pitch. Experiments have also been made with a similar apparatus, in which the resonator and conducting tube were replaced by a telephone held near the pipe, and connected by wires to another telephone placed close to the ear. I have found that sounds about the pitch of C' (256 complete vibrations per sec.)

had a very slight effect on the plates of the telephones used by me. A C″ closed organ-pipe worked well, its unit distance being at about 12 inches. With the highly composite sound given by the stump of a reed trumpet organ-pipe of about the pitch of C″, the unit distance was 18 inches. There are reasons to be of the opinion that the intensity of the sensation of sound varies as the logarithm of the mechanical energy of vibrations causing it, but we need not (at least in the present crude condition of the problem we are attempting to solve) bring this refinement into our discussion. The sound used in these experiments should not be continuous, but intermittent (Alfred M. Mayer).—*American Journal of Otology*, No. 2, vol. i., April 1879, p. 87.

AUDITORY AFFECTIONS IN BRIGHT'S DISEASE.—The candidate has confined his considerations to three forms of affections of the hearing which arise in Bright's disease, viz., tinnitus aurium, half-deafness, and complete deafness. His conclusions are that affections of the hearing may arise either at the beginning or during the course of the disease. Intermittence seems to be a characteristic of these forms of deafness, which may be contemporaneous with the œdema, or they may precede it. They appear with all the forms of the disease, and are manifested with variable intensity. To what special lesion of the ear, or of the nerve of hearing, these symptoms are attributable this writer cannot say positively. According to examination of these cases made by Delacharrière, rupture of the membrana tympani, abnormal vascularity along the manubrium, and sclerosis of the tympanum, may be adduced as causative forces. It is held that the hypothesis of Rosenstein, according to which there is an œdema in the course of the nerve within the cranium, may explain the intermittence and variations of intensity in these morbid manifestations. This process may be, the author thinks, analogous to the œdema of the glottis and the vocal cords noted in Bright's disease by Fauvel in 1864. A similar symptom was noted by Sée. It may therefore be supposed that the symptoms in the ear are attributable to an œdema of the sheath of the auditory nerve, an œdema which, by its greater or less intensity, gives rise to the intermittences so frequent in the course of this symptom (Paul Pissot, *Thèse pour le Doctorat en Médecine.—Faculté de Médecine de Paris*, 4th April 1878).—*American Journal of Otology*, No. 2, vol. i., April 1879, p. 136.

MARKED STENOSIS OF THE FORAMEN ROTUNDUM.—In both temporal bones of a man the promontories extended backward directly to the posterior tympanic wall, and the foramina rotunda were narrowed so that a bristle could hardly be inserted. In addition, the eminentiæ pyramidales were lacking, in their places being depressions, at the bottom of which were openings into the Fallopian canals. The part of the temporal bone behind the sulcus tympanicus, which forms the canaliculus chordæ, was so strongly developed that it extended forward beyond the sulcus. This latter condition Zuckerkandl asserts he has found several times.—Zuckerkandl, *Monatschrift für Ohrenheilkunde*, Juli 1878.

SOFTENING OF THE OSSICULA.—In a man who died from chronic phthisis, and who had suffered for years from chronic otorrhœa, Hartmann found extensive destructive processes in both tympana, such as are not unfrequently seen with chronic purulent inflammation of long standing. In addition to these common pathological changes, the basal half of the anterior crus of the left stapes was wanting, and the posterior crus and head were so softened that they could be bent in any direction; the right stapes was normal in form, but likewise softened, so that its head could be bent at a right angle. The bases of both of these bones were attached with the normal firmness in the fenestrae ovales. Microscopic examination showed the normal bone corpuscles in the crura of both stapes. Further examination of the skull showed similar softening in the squamous portion of both temporal bones, from which fact Hartmann concludes that the marasmus accompanying the phthisical process was the cause of the decalcification and softening of the bones.—Hartmann, *Archiv für Ohrenheilkunde*, vol. xiii. part 4, p. 259.

OCCASIONAL PERISCOPE OF DERMATOLOGY.

By W. ALLAN JAMIESON, M.D., F.R.C.P., Lecturer on Diseases of the Skin, Edinburgh School of Medicine.

ON THE TREATMENT OF LUPUS BY EROSION.—Mr Clement Lucas in this paper first defines the cases in which treatment by Volkmann's scoop is advantageous, for lupus is too often applied to any disease which gradually eats away the soft parts. It is not too much to say that almost every case of extensive ulceration of the face, to which the term "exedens" might, with good reason, be given, has its origin in syphilis, either hereditary or acquired. Lupus exedens and non-exedens either express merely stages of a process, or differences in the rate of progress, or the effects of totally distinct disease. True lupus is an exceedingly slow disease, which, even when ulcerating, takes many months or even years to destroy one ala of the nose, whereas tertiary or late syphilis progresses much more rapidly, and is much more destructive in its effects. It is because these syphilitic affections of the nose, lips, and palate are treated for lupus, that we see the terrible ravages sometimes made by syphilis in its later stages. Lupus is essentially a growth of small cells incapable of higher development, and as it is superficial, and of limited area, local treatment, as might be supposed, is most efficacious in its cure. In very early or slight cases constitutional remedies alone may prove sufficient, but, except in such cases, active local treatment ought at once to be commenced, otherwise valuable time is lost, and the disease is allowed to spread. When caustics, excisions, or the galvanic cautery are employed, a certain amount of healthy tissue is destroyed with the diseased, thus adding to the subsequent cicatrix; when the lupus tissue is scraped away by means of a blunt scoop or spoon, it, being a cell growth, gives way readily before it, whereas the sound tissue on which it rests cannot thus be removed; we have thus, in a blunt instrument, a means of separating diseased from healthy tissues, between which neither caustic nor knife can discriminate. The normal derma is so dense that it offers a complete resistance to the scoop, hence while all the diseased tissue must be thoroughly eradicated, there is no danger of doing too much in this direction. When the disease, instead of being concentrated in distinct patches, assumes an infiltrating form, it should be attacked by multiple puncturings with a small narrow-bladed knife. Such are often found round lupus patches on the nose. The scoop should be somewhat pointed to enable the operator to pick out the little holes which the lupus tissue makes in the deep portion of the skin. Stimulating lotions or ointments hasten the healing process more than soothing applications. Mr Lucas uses a solution of chloral or red oxide of mercury ointment. Fungating granulations may require caustics. Superficial cases thus treated heal so as to leave scarcely any scar, and more extensive surfaces without contraction, as results from cautery and caustics. As illustrative of this plan of treatment, Mr Lucas gives the history of ten cases, in which the results attained compare most favourably in all points with those which followed the use of caustics and cautery.—*Lancet*, 22d February and 1st March 1879.

PILOCARPIN AS A REMEDY FOR ALOPECIA.—Dr G. Schmitz, of Cologne, has reported the cases of two bald men whom he treated in his ophthalmic practice with subcutaneous injections of hydrochlorate of pilocarpin, to produce absorption of inflammatory residua within the eye. In both a secondary effect, consisting in the rapid growth of young downy hairs on the bald parts of the scalp was observed. In the first case a man of sixty had in four months his whole head covered partly with gray and partly with black hairs of considerable growth, and so as entirely to obliterate the previous baldness. Dr Schmitz calls the attention of the profession to these facts with a view to elicit from others whether they have made any similar observations.—*Medical Times and Gazette*, 15th March 1879.

CONTRIBUTION TO THE STUDY OF ICHTHYOSIS, AND OF THE EPITHELIAL GROWTHS IN CONNEXION WITH IT. ALSO OBSERVATIONS ON THE REPRODUCTION OF HAIR.—Dr Esoff, of St Petersburg, after a review of the more important recent investigations on ichthyosis, from which it appears that more attention has been paid to the crusts than to the condition of the skin itself and its organs, publishes the conclusions from his own investigations undertaken at Professor von Recklinghausen's Pathological and Anatomical Institute at Strasburg. Preparations from the cadaver of a man aged 46 formed the basis of these investigations. The lower legs were covered with brownish gray, deeply fissured ichthyotic crusts, which were irregularly defined from the sound skin. The affection was particularly well developed on the extensor aspect of the right leg. After separation of the crusts, the subjacent surface appeared here and there uneven, with depressions and elevations corresponding to the under surface of the crusts. The vessels of the cutis and subcutaneous fatty tissue were distended, and filled with clotted blood. The hairs were absent on the most diseased parts; on the less affected parts they were still partially present. The skin was little moveable in the portions most severely implicated. The diseased process was in an earlier stage of development on the left leg, and the skin was healthy on the rest of the body. Dr Esoff could obtain no particulars of the history. By microscopic examination the crusts were seen to be composed of superimposed layers of horny plates corresponding to the normal epidermis, the addition of solution of potash or soda rendered them particularly distinct. The horny masses insinuated themselves into the openings of the hair follicles and sebaceous glands. Pigment granules, singly and in groups, were found both in the upper layers and in those adjoining the rete Malpighii; that these contained iron was made manifest by the development of a blue tinge, when ferro cyanide of potassium and hydrochloric acid were added. At times the undermost layer of the crusts was placed directly above the band of Langerhaus, at others cells, exhibiting a transition form between epithelial cells and horny plates, were interposed. The rete Malpighii passed down deeply between the papillæ; but on this Esoff lays no weight, as, according to his experience, variations in this are met with even in normal conditions. The papillæ assumed different forms, and contained much pigment both around the vessels and in their walls. The arterial walls were thickened, particularly the intyma, but the lumen was not thereby narrowed. The veins exhibited also thickening of their walls, in them almost confined to the intima, which narrowed, and even in parts obliterated, their lumen. The sweat-glands lay at different depths, and showed two forms of pathological changes. Either their coil was filled up by epithelial cells, which blocked their lumen, and led to the formation of cysts, or the wall was thickened with new formation of connective tissue, between the bundles of which a number of spindle-formed cells were found, while the lumen was enlarged, and pale hyaline cylinders were formed. The ducts, often beaded, contained either closely compressed cells and a granular mass, or were themselves composed of two layers, of which the outer was made up of large, strongly pigmented cells, with distinct nuclei; the inner of pale cells, with scarcely observable nuclei. The sebaceous glands had lost their acinose character, and were either distended into cysts, or were represented by three or four little bodies close to the hair follicles containing oily cells. At the point of attachment of the arrector pili muscle to the hair follicle, outgrowths, consisting of epithelial cells, were met with, which were prolongations of the outer root-sheath, sometimes presenting a rounded end, sometimes branched or enclosing a defined cavity, according as the muscle was attached by one or more bundles. The cavity contained for the most part horny plates arranged concentrically, often filling up the entire space, or, more rarely, a finely granular mass. The connective tissue bundles of the subcutaneous areolar tissue appeared markedly hypertrophied, as had been already noticed by Von Barensprung. Neumann had already observed similar outgrowths from the hair follicle, as Esoff describes above, in lichen exudativus ruber and in senile alterations of the skin, and regarded them as folds of the distended hair follicle. Derby and Gay described similar outgrowths at the point of insertion of the musculus arrector pili in prurigo. Esoff, continuing his researches, found these in normal skins, and distinguishes two varieties. One of these is unconnected with the arrector pili, and the outgrowths are developed on the entire outer surface of the hair follicle, as well on the lower as on the upper portion of the outer root-sheath. They appear in form of oblong outgrowths, which contain a hair-shaft, are wider beneath, and bear there secondary small outgrowths. They serve for the new formation of hairs, as is to be recognised from the presence of hairs in their interior. A variety of these outgrowths, with pearl-like formations composed of horny plates (rudimentary hair sacs with rudimentary hairs), were seen by Esoff on the mons Veneris as Wertheim and others had already recorded. Strongly developed subcutaneous fatty tissue appeared, according to Esoff's observations, to be a particularly favourable soil for the growth of hair. The second form of outgrowths is characterized by their position at the point of insertion of the m. arrector pili. These outgrowths also arise from and are direct continuations of the outer root-sheath. They are considerably longer than those of the first form, and produce fibrils, from which depends a cell-nest originating from increased contraction of the muscular fibres. Esoff formulates his view with relation to the nature of ichthyosis, that it consists in an increased formation of epithelial cells, with a simultaneously increased tendency to become horny. It is impossible that immoderate secretion of the sebaceous glands can in this play any conspicuous part, as these are either much diminished in size or transformed into cysts, so that their secreting function must be almost entirely lost.—Schmidt's *Jahrbücher*, 1878, No. 11.

LIGATURE OF THE ISCHIAL ARTERY—TRANSFUSION OF BLOOD.—Under this title, in the *Anfiteatro Anatomico Español*, Dr Suender publishes particulars of a case, of which the following translation is a brief abstract:—"Pedro M. Ruiz, a soldier, was admitted to hospital on 31st December, complaining of slight pain in walking, in the neighbourhood of the right hip-joint. Careful examination revealed nothing beyond slight tumefaction behind the coxo-femoral articulation. This gradually increased, and by the end of January the part, though pale, had become swollen, tense, and shining. The local condition of matters indicating the necessity of active interference, in order to aid diagnosis, a puncture was made on several occasions with Dieulafoy's aspirator, and a small quantity of semi-coagulated blood was withdrawn. It was then evident that there was rupture of an artery in the gluteal region—which, it was difficult to say. Operation being resolved upon, an incision was made in the tumour. An enormous quantity of coagulated blood escaped, and after great difficulty the bleeding point was discovered above and behind the great trochanter. It proved to be the ischial artery, and a double ligature was placed upon it, which had the effect of arresting the hæmorrhage. The patient was removed to bed, but from the great loss of blood he was in a very precarious state. Seven hours afterwards there was so little reaction, and the state of the patient seemed so desperate, that it was resolved to try transfusion of blood at once. One of the pupils volunteered a supply. About 150 grammes were withdrawn, and after being defibrinated an attempt was made to inject it into one of the veins in the back of the hand. This failing, about 60 or 70 grammes were successfully injected into the median basilic vein. In a short time the patient felt better, and reaction gradually set in. On the following day, beyond being a little feverish, his state was as satisfactory as one could wish, considering the gravity of the case." What the ultimate result was, the writer does not say.

Part Fifth.

MEDICAL NEWS.

Dr Fowler, Corstorphine, has been presented by his friends with 600 guineas as a mark of regard.

Obituary.—Dr James Cumming.—It is with very great regret that we announce the death of Dr James Cumming, F.R.C.P.E., which occurred at 18 Ainslie Place, Edinburgh, on the morning of the 9th May. Having graduated as M.B., C.M., in 1868, he afterwards filled various appointments in the Hospitals of Edinburgh, among which was that of House Surgeon under Mr Lister in the Royal Infirmary. When he obtained the degree of M.D., in 1871, he was awarded a gold Medal by the University of Edinburgh for a learned and exhaustive thesis on Antiseptic Surgery, in which he recorded many original experiments and observations. Thereafter he proceeded to study at Berlin and Vienna. On his return home, he was elected one of the Medical Officers to the New Town Dispensary; and a year or two later Extra Physician to the Royal Hospital for Sick Children. In both of these posts he displayed the utmost enthusiasm and ability in his work. Only last March he was elected an Ordinary Physician to the latter Institution; the duties of which office he was prevented from entering upon by his last illness. From his great amiability and frankness he was a universal favourite with all who knew him, and was never known to have made an enemy. To his colleagues at the Dispensary and Children's Hospital he was especially endeared, not only from the thorough straightforwardness of his character, but also by the gentleness of his disposition. Naturally modest and retiring, only his personal friends fully knew his extreme conscientiousness in the discharge of his duties, and his generosity in assisting, as well as his unremitting care in attending the sick poor connected with the Dispensary. He devoted himself a good deal to the study of diseases of the skin, and contemplated giving a course of lectures at some future time on that subject. Till a comparatively short period before his death he was actively engaged assisting his father in an extensive practice, and by all his patients he was greatly beloved. His remains were followed to the Dean Cemetery by a large number of medical and other friends.

PUBLICATIONS RECEIVED.

William Allingham.—Diseases of the Rectum. J. & A. Churchill, London, 1879.

Fancourt Barnes, M.D.—Manual of Midwifery for Midwives. Smith, Elder, & Co., London, 1879.

Bericht über die Elfte Versammlung der Ophthalmologischen Gesellschaft. Heidelberg, 1878.

Le Docteur Boucomont, Médecin-Consultant à Royat.—Les Eaux Minérales d'Auvergne: Le Mont-Dore, La Bourboule, Royat, Châtel-Guyon, Saint-Nectaire, Châteauneuf, Chaudes-Aigues, etc. Pp. 210. *Deuxième Tirage.* Delahaye et Cie, Paris, 1879.

Prof. J. M. Charcot.—Lectures on Bright's Disease of the Kidneys. Baillière, Tindall, & Cox, London, 1879.

D. D. Cunningham, M.B.—On certain Effects of Starvation on Vegetable and Animal Tissues. Calcutta, 1879.

D. J. Cunningham, M.D.—The Dissector's Guide. Maclachlan & Stewart, Edin., 1879.

Thomas Addis Emmet, M.D.—Principles and Practice of Gynæcology. J. & A. Churchill, London, 1879.

George P. Field, M.R.C.S.—Diseases of the Ear. Henry Renshaw, London, 1879.

Fred. R. Fisher, F.R.C.S.—Treatment of Deformities of the Body. J. & A. Churchhill, London, 1879.

Fourteenth Annual Report of the Sanitary Commissioners for Madras, 1877. Madras, 1878.

John B. C. Gazzo, M.D.—Yellow Fever: Facts as to its Nature, Prevention, and Treatment. New Orleans, 1878.

J. A. B. Horton, M.D., Edin.—Diseases of Tropical Climates and their Treatment. J. & A. Churchill, London, 1879.

G. M. Humphrey, M.D., F.R.S.—The Hunterian Oration for 1879. Macmillan & Co., London, 1879.

E. Klein, M.D., F.R.S., and E. Noble Smith, L.R.C.P., M.R.C.S.—Atlas of Histology. Parts II. and III. Smith, Elder, & Co., London, 1879.

Robert J. Lee, M.A., M.D.—Notes for Students, Part I. T. Richards, London, 1879.

T. R. Lewis, M.B.—Microscopic Organisms found in the Blood of Man and Animals, and their Relation to Disease. Calcutta, 1879.

Henry Maudsley, M.D.—The Pathology of Mind. Macmillan & Co., London, 1879.

Thomas W. Poole, M.D.—Physiological Therapeutics. The Toronto News Co., Toronto, 1879.

Ralph Richardson, M.D. Edin.—The Nature of Life. H. K. Lewis, London, 1879.

J. Lewis Smith, M.D.—Diseases of Infancy and Childhood. H. K. Lewis, London, 1879.

Alfred Stillé, M.D., LL.D., and John M. Maisch, Ph.D.—The National Dispensatory. J. & A. Churchill, London, 1879.

Henry Veale, M.D.—The Notation Case-Book. Smith, Elder, & Co., London, 1879.

Prof. Rudolph Virchow.—Infection Diseases in the Army. H. K. Lewis, London, 1879.

Charles West, M.D., and J. Matthews Duncan, M.D., Lectures on the Diseases of Women. J. & A. Churchill, Lond., 1879.

W. Mac Neill Whistler, M.D.—Syphilis of the Larynx. J. & A. Churchill, London, 1879.

John A. Wyeth, M.D.—Essays in Surgical Anatomy and Surgery. W. Wood & Co., New York, 1879.

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION

INDEX.

A

Aberdeen, appointment to materia medica chair, university of, 671.
Abscess, mammary, W. Allan Jamieson on, 1083.
Acacia in cracked nipple, 379.
Acoustics, Mr Jacques and Dr Ihlseng on, 1044.
Adams, James, M.D., on treatment of psoriasis, 15.
Address to medical graduates, Edinburgh, by Professor Simpson, 193.
Agnew, D. Hayes, M.D., on principles and practice of surgery, *rev.*, 923.
Alberto, Cougnet, on sea coasts, *rev.*, 1004.
Althaus, Julius, on excessive secretion from the nose, 759.
Amenorrhœa, Dr G. de Gorrequer Griffith on, 495.
Anæmia, case of idiopathic, by John Haddon, M.A., M.D., 493.
Anderson, Henry Scott, M.D., Harveian discourse, 1057.
Anderson, M. F., L.R.C.P., on phosphates in nutrition, *rev.*, 449.
Aneurism, sudden death from, by Dr Edward Henderson, 1093.
Aneurisms, case of successive, by Henry Steele, M.D., 605.
Anidrosis in xeroderma, Lewinson on, 761.
Annandale, Professor, on relief of strangulated hernia, 678; suspension as an aid to surgical demonstrations, 1001.
Aortic valvulitis, the premurmuric stage of, by Dr J. M. Fothergill, 681.
Aphasia, hemiplegic, W. Lauder Lindsay, M.D., on, 212; case of, by J. Carlyle Johnston, M.B., 985.
Apolant, Dr, on case of unilateral sweating, 762.
Archives of Dermatology, *rev.*, 1120.
Articulation school, Greenock, 855.
Artt, Ferdinand Von, M.D., on injuries of the eye, *rev.*, 259.
Ascites, Dr A. X. Lopes Vierra on a case of, 415.
Asthma, spasmodic, Dr J. P. Bramwell on, 246.
Atkinson, Dr, on trichophyton tonsurans, 954.
Atropin, various authors on, *rev.*, 475.
Atthill, Lombe, M.D., on diseases of women, 715.
Audition, influence of head movements on, by Dr Victor Urbantschitsch, 971.
Aural surgery, James Patterson Cassells, M.D., on, 32; in general practice, 853.
Aveling, J. H., M.D., on posture in obstetric practice, *rev.*, 716.

B

Baird, Alex., M.D., on the etiology of puerperal fever, 804.
Batterbury, R. L., M.B., on milk as a vehicle for quinine, 186.
Beaumetz, Dr Dujardin, on oxygen in albuminuria, 1043.
Belladonna in infantile diseases, by M. Jules Simon, 473.
Bell, Dr Charles, on diseases of early life, 238, 534; on diphtheria and erysipelas, *rev.*, 933.
Bell, Joseph, on surgical cases, 789.
Bell, Robert, M.D., on Tarnier's forceps, 890.
Benike, Dr Fritz, on ergot in labour, 466.
Bennett, James M., M.D., on chronic cervical metritis, 403.
Bentley and Trimen, medicinal plants, *rev.*, 1119.
Berthold, Dr, on salicylic acid in dysentery, 1040.
Bidder, Dr E., on eclampsia, 282.
Bidder, Professor, on method of Kristeller in head presentation, 747.
Binz, Dr, on bromide and chloride of potassium, 91; on the physiological action of coffee, 946.
Bischart, Monsieur, on the velocity of sound, 757.
Bladder and ureters, physics of, by Alexander James, M.D., 293, 406.
Bladder, displacement of, by J. G. Garson, M.D., 300.
Blindness, preventable, Brit. Med. Journal on, 1044.
Blumberg, Theodore, on the active principle of ergot, 563.
Bœhr, Dr Max, on puerperal fever, 184.
Bonnafont on otalgia, 666.
Bouchut, Dr, on chloral as an anæsthetic for children, 663.
Boyd, Dr S. S., on veratrum viride, 93.
Braidwood, P. M., M.D., on animal vaccination, 385.

BRAMWELL, BYROM, M.D., on intra-cranial tumour, 141, 311, 498, 599, 1070.
BRAMWELL, J. P., M.D., on spasmodic asthma, 246, 693.
BRAUN, Dr, of Heidelberg, on neurectomy, 188.
BREGUET, M., on influence of duration and intensity on luminous perception, 949.
BROWNE, LENNOX, F.R.C.S.E., on the throat and its diseases, *rev.*, 166; on forms for taking of aural cases, *rev.*, 453; throat diseases, 567; on epithelioma of the tonsil, 758.
BUCHMÜLLER on epidemic of rötheln, 382.
BUCKNILL, JOHN CHAS., M.D., on habitual drunkenness, *rev.*, 340.
BUIST, J. B., M.D., M.R.C.P., on retroversion of the gravid uterus, 147.
BULKLEY, Dr L. D., on eczema and psoriasis, 191; on eczema marginatum of Hebra, 382; on removal of superfluous hairs, 956.
BURNETT, Dr CHARLES H., on the ear, *rev.*, 165.
BUSEY, SAMUEL C., M.D., on oxalate of cerium and caffein, 561.
BYRNE, Dr J., on reposition of the inverted uterus, 556.

C

CADELL, FRANCIS, F.R.C.S., on umbilical urinary fistula, 221.
CALLETTI, G., on epithelioma, 186.
CALVET, M., of Paris, on the action of morphia, 184.
CAMPARDOH, on treatment of whooping-cough, 945.
Candidates, list of, for commissions as surgeons in H.M. Brit. Med. Serv., 288; Indian Med. Serv., 288; dearth of, for the Army Medical Service, 459.
Carbolic acid, effects of, M. Kirmisson on, 89.
CASH, THEODORE, M.B., on hyperpyrexia, 234.
CASSELLS, JAMES PATTERSON, M.D., on aural surgery, 32; translation of Politzer's text-book of aural surgery, by, 1049.
CHANDLER, Dr A. H., on lime juice in rheumatism, 186.
CHANTRELLE, trial of, 48.
CHIENE, JOHN, F.R.C.S.E., on knock-knee, 878.
CHISHOLM, H. W., on weighing and measuring, *rev.*, 178.
Chloral hydrate, Dr F. Ogston on case of poisoning by, 289.
Chlorhydrate of pilocarpine, action of, various authors on, 660.
Chloroform, insufficient administration of, by David Hart, M.D., 411.
Chromic acid, Drs Rosseau and Magitot on, 1041.
Chrysophone, 760.
Cinchona alkaloids, various authors on, 665.
CLARKE, ED. H., M.D., on visions, *rev.*, 629.
Club-foot, Alexander Ogston, M.D., on, 481.
COLES, OAKLEY, on dental mechanics, *rev.*, 731.
COLLEY, N. DAVIES, F.R.C.S., on rheumatoid inflammation of the joints, 277.
Congress at Paris, Blind, 570.
CORMACK, Sir JOHN ROSE, on course of diphtheria in two brothers, 418.
Corpus callosum, absence of, by James Maclaren, L.R.C.S.E., 609.
Correspondence, G. Hamilton, M.D., on Dr Duncan's paper on the female perinæum, 960.
Coto bark, various authors, on, 565.
COURTY, Professor, on a reduction of an inversion of the uterus, 560.
COXE, Sir JAMES, M.D., on lunacy in its relation to the state, *rev.*, 192.
COZZOLINO, Dr V., on thymic-acid and sulpho-thymate of soda, 665.
CREIGHTON, CHAS., M.B., on pathology of the breast, *rev.*, 455.
CROCKER, Dr, on oleate of zinc in eczema, 571.
Croup, nature and treatment of, by John Moir, L.R.C.P., 506, 613, 796.
CUMMING, Dr J., death of, 1141.
Curettes and Curetting, Alex. Keiller, M.D., F.R.C.P.E., on, 323.
CURLING, T. B., F.R.S., on diseases of the testis, *rev.*, 647.

D

Damiana, Dr Summerlin on, 474.
Datura, various authors on, 475.
DAVIDSON, A. D., M.A., M.D., appointed to materia medica chair, Aberdeen, 671.
DEDRICKSON, Dr, on ergot in apoplexy, 565.
Dermatology, periscope of, 380, 571, 761, 954.
Digitalis, use of, by Dr Herand, 185.
Diphtheria, case of, by Sir J. R. Cormack, F.R.S.E., M.D. (continued from p. 637, vol. xxiii.), 418; diphtheria and croup, report of scientific committee on, 957.
Diseases of early life, Dr Charles Bell on, 238, 534.
DOUGALL, Dr JOHN, on iodine, 664.
DOUGALL, Surgeon-Major JOSEPH, M.D., F.R.C.P.E., obituary notice of, 1053.
DRESCHFELD, Dr, on copaiba, 751.
DUBONÉ, Monsieur, on ergot in typhoid fever, 475.
DUDGEON, R. E., M.D., on the human eye, *rev.*, 163.
DUDLEY, W. L., on the hearing of insects, 756.
DUHRING, LOUIS A., M.D., atlas of skin diseases, *rev.*, 168, 548; on atrophy of the hair of the beard, 380; on inflammatory fungoid neoplasm, 764.
DUNCAN, JOHN, on mercury in syphilis, 97; case of guinea worm, 713; on pain as a symptom of fracture, 966.
DUNCAN, J. MATTHEWS, M.D., on solution of perchloride of iron, 673; on the female perinæum, *rev.*, 813.
DUNCANSON, Dr KIRK, periscope of otology, 476, 567, 666, 756, 850, 948, 1043, 1133.
DURET, Dr H., on injuries of the brain, *rev.*, 919.
Dysentery, Dr Liddell on treatment of, 1040.
Dystocia, with dorsal displacement of the arm, by Professor A. R. Simpson, 961.

E

EDISON Mr on the phonomotor, 756.

Education, medical, and examinations, information on, 354–377.
Elastic compression, surgical uses of, by J. C. Ogilvie Will, M.D., 782.
ELBE-LAKE on kosmogonia, *rev.*, 179.
ENGELMANN, Dr, on fatal cases of Battey's operation, 559.
Epilepsy, hystero, cases of, by Thomas Inglis, F.R.C.P., 527.
Ergot, various authors on, 564.
ESMARCH, Dr FRIEDRICH, the surgeon's handbook, by, *rev.*, 645.
Eucalyptus, Drs Mosler and Goeze on, 765; Prince Troubetkoy on, 856; vegetation of, 1051; Kingzett on, 1052.
EUSTUCHE, Dr G., on perineorrhaphe, 750.
EVERETT, Dr J. T., on uterine fibroids, 278.

F

FALK, Dr, report on puerperal fever, 435.
FARINA, Docteur J. F., on the climate of Mentone, *rev.*, 824.
FAUNTLEROY, Dr A. M., on the obstetric forceps, 278.
FAYRER, Sir J., address at prize distribution at Army Med. School, Netley, 857.
FERGUS, ANDREW, M.D., on the sewage question, 42, 153, 249, 331, 426.
FERRIER, Dr, on localization of cerebral disease, *rev.*, 1116.
Fevers of Syria, Dr John Wortabet on, 151.
FIALLA, Dr LOUIS, on cataract, *rev.*, 164.
FINLAY, W. A., M.D., on unreduced Pott's fracture, 220.
FINLAYSON, JAMES, M.D., clinical manual by, *rev.*, 552.
Fistula, case of umbilical urinary, by Francis Cadell, F.R.C.S., 221.
Forceps, Tarnier's, Robert Bell, M.D., on, 890.
FORGET, Dr A., on perchloride of iron in diphtheria, *rev.*, 1019.
FOTHERGILL, J. MILNER, M.D., on the premurmuric stage of aortic valvulitis, 681; on therapeutic agents, *rev.*, 637.
FOWLER, Dr, presentation to, 1141.
Fracture, case of unreduced Pott's, by Dr W. A. Finlay, 220; pain as a symptom of, by John Duncan, F.R.S.E., 966.
FRAYER, Prof. PERSIFOR, on the telephone, 757.
FRITSCH, on danger of washing out the puerperal uterus with disinfectant solutions, 281.

G

GAMGEE, SAMPSON, F.R.S.E., on the treatment of wounds, *rev.*, 174.
GARSON, J. G., M.D., on displacement of the bladder, 300.
Gelseminum, therapeutical action of, by Professor Massini, 282.
GIRTH, Dr, on turpentine in whooping-cough, 1041.
GIES, Dr T., on acetic acid injections in carcinoma, 663.
Gleanings from a continental tour, by Prof. A. R. Simpson, 577.
Gleet, clinical remarks on, by Dr J. C. Ogilvie Will, 882.
Glycerine in internal hæmorrhoids, by Dr David Young, 91.
GOODMAN, Dr, on the cyclical theory of menstruation, 846.
GORDON, Dr, on hydrastis Canadensis, 92.
GREEN, J. ORNE, M.D., on rupture of membrana tympani from hanging, 666.
GRELLETY, Dr, on hiccup, 1041.
GRIFFITH, Dr G. DE GORREQUER, on amenorrhœa, 495.
GRIFFITHS, Dr W. H., the late, materia medica, *rev.*, 1120.
GUBLER, Professor, on subnitrate of bismuth, 642; on digitaline injections, 91.
GUBLER, Professor ADOLPHE, Paris, obituary notice of, 1056.
Guinea worm, case of, by John Duncan, F.R.C.S.E., 713.
Gum-trees, Australian, by Richard Rowe, 572.
Gynecological Society, Transactions of the American, vol. ii. 1877, *rev.*, 815.

H

HADDON, JOHN, M.A., M.D., on idiopathic anæmia, 493; temperature and pulse chart, 856; on case of milk-like urine, 979.
Hæmatemesis, J. A. Erskine Stuart on, 1081.
HALTON, Dr RICHARD G., on mental disturbance in uterine disorders, 277.
HAMILTON, ALLAN M'LANE, M.D., on nervous diseases, *rev.*, 343.
HAMILTON, G., M.D., letter from, 960; on the management of tedious labour, 993.
HARLINGEN, Dr VAN, on impetigo contagiosa, 955.
HARRIS, JOHN, M.B., on spontaneous amputation of the thigh, 575.
HARRISON, R., F.R.C.S., on stricture of the urethra, *rev.*, 65.
HART, DAVID, M.B., on the insufficient administration of chloroform, 411; on two sections of the female pelvis, 896.
Harveian discourse, by H. Scott Anderson, M.D., 1057.
HAUSSMANN on the dilatation of the os uteri, 749.
Heart, disease of, by Alexander Morison, M.D., 701.
HEATON, GEORGE, M.D., on the cure of rupture, *rev.*, 176.
Hemorrhage, accidental, Dr C. E. Underhill on, 200.
HENDERSON, Dr EDWARD, on sudden death from aneurism, 1093.
HERAND, Dr, on use of digitalis, 185.
Hernia, relief of strangulated, by Professor Annandale, 678.
Hernia, case of strangulated inguinal, by Edmund Owen, F.R.C.S., 1078.
Herpes bilateral, Dr Jamieson on, 761.
Herpes zoster, Perrond on, 761.
Hertford British Hospital, Paris, opening of, 1050.
HERZENSTEIN, Dr M. ULRICH, on trellis-work dressing of fractures, 188.
HESMER, Dr ALFRED, on the cervix uteri in dystocia, 466.
HEWITT, Dr GRAILY, F.R.C.P., system of uterine pathology by, *rev.*, 544.
HILLAIRET, M., on treatment of lupus, 763.
Hock, Bucellas, from Sandeman Bros., Lisbon, 192.

HODGEN, Dr J. T., on atropia in collapse, 566.

HOFMEIR, Dr M., on cutting of the navel-string, 467; on nephritis in pregnancy, 748.

HOGYES on capsicum, 1039.

HORTON, Dr, on diseases of tropics, 1115.

HORWITZ, M., on podalic version, 750.

HUNTER, CHAS., on mechanical dentistry, *rev.*, 731.

HUSBAND, J., F.R.C.S.E., case of large tumour by, 308.

HYDE, Dr, on eruption after cannabis Indica, 572; on tayuga, 752.

Hydrastis Canadensis, Dr Gordon on, 92.

Hydrate, chloral, Ranke on, 94.

Hydrocephalus, intra-uterine, by Angus Macdonald, M.D., 103.

Hydrocyanic acid, the therapeutic value of, by Dr K. N. Macdonald, 981.

Hydrophobia, Dr Andrew Wilson on, 207, 315.

Hydrophobia, spurious, Dr Lauder Lindsay on, 1087.

Hyperpyrexia, Theodore Cash, M.B., on, 234.

I

INGLIS, THOMAS, F.R.C.P., on cases of hystero-epilepsy, 527.

Institutions for deaf and dumb, various, 568.

Iodoform, Dr Moleschott on, 562.

IRVINE, presentation to Dr, 94.

J

Jaborandi in Bright's disease and œdema, 379; O. Kahler on, 474; various authors on, 753–4.

JACQUES, M., on sound, 854.

JAMES, ALEX., M.D., on the physics of the bladder and ureters, 293, 406.

JAMES, PROSSER, M.D., M.R.C.P., sore throat, by, *rev.*, 555.

JAMIESON, W. ALLAN, M.D., periscope on dermatology, 380, 571, 761, 954, 1137; on histology of psoriasis, 622; on mammary abscess, 1083.

JEFFREY, Dr, of Ayton, obituary notice of, 958.

JOHNSTON, J. CARLYLE, M.B., on case of aphasia, 984.

Joints, rheumatoid inflammation of, by N. Davies Colley, F.R.C.S., 277.

JONES, H. MACNAUGHTON, M.D., on aural surgery, *rev.*, 454; atlas of the diseases of the membrana tympani, *rev.*, 454.

Journal of anatomy and physiology, vol. xiii., part i., *rev.*, 831.

K

KAATZER, Dr, on foreign bodies in the external meatus, 855.

KAHLER, O., on the action of jaborandi, 474.

KAPOSI, Professor, on vaseline in skin diseases, 571.

KEETLEY, CHAS. BELL, F.R.C.S., students' guide by, *rev.*, 649.

KEILLER, ALEXANDER,! M.D., F.R.C.P.E., on curettes and curetting, 323.

KEITH, Dr THOMAS, on ovariotomy before and after antiseptics, 558.

KESSEL, J., report on heroic aural surgery by, 190.

KLEIN, Dr, atlas of histology, *rev.*, 1119.

Knife, new form of section, Dr B. C. Waller on, 893.

Knock-knee, treatment of, by John Chiene, F.R.C.S.E., 878.

KNOTT, JOHN F., on the pathology of the œsophagus, *rev.*, 1018.

KOCKS, Dr J., on sterilization of women, 849.

Kolpo-cystotomy, Dr Montrose A. Pallen on, 280.

KÖNIGSHOFER, on action of pilocarpin and jaborandi on the eyes, 753.

Koroniko plant a remedy for diarrhœa, 92.

KRAUSSOLD, Dr, on primary otitis external diphtheritica, 477.

KUNGE, Dr, on curare in treatment of epilepsy, 755.

KUSTNER on danger of washing out the puerperal uterus with disinfectant solutions, 281.

L

LABONTE, J., M.D., M.R.C.P., on tubercular leprosy (continued from p. 228, vol. xxiii.), 422.

Labour, on the head-flexion in, by Alex. R. Simpson, M.D., 865; management of tedious, by Dr G. Hamilton, 993.

LANDSBOROUGH, Rev. DAVID, on foreign plants in Arran, 766.

LANE, JAMES R., F.R.C.S., lectures on syphilis, *rev.*, 547.

LANGLET, Dr, on jaborandi, 754.

Laparo-elytrotomy, Dr Gaillard Thomas on, 278.

LARDY, M., on a new repulsive, 662.

LEBLOND, Dr A., on amputation of the cervix uteri, 88; on gynecological surgery, *rev.*, 1025.

LEOPOLD, on ergotine, 464.

Leprosy, W. Munro, M.D., on, 134, 226, 517; tubercular, J. Labonte, M.D., M.R.C.P., on (con. from p. 228, vol. xxiii.), 422.

LEVINSTEIN, EDWARD, M.D., on morphia, *rev.*, 160.

LIEBREICH, Prof. OSCAR, on butyl chloral, 378.

Life, science of, *rev.*, 728.

LINDSAY, Dr LAUDER, on hemiplegic aphasia, 212; on spurious hydrophobia, 1087.

LIVEING, Dr R., handbook of skin diseases, *rev.*, 936.

Lochial discharge, Dr Hugh Miller on, 392.

LŒWENBERG, Dr, on removing foreign bodies from the external auditory meatus, 478; on adenoid tumours of the nasopharynx, 910, 996, 1099.

LOMBARD, Dr H. C., on medical climatology, *rev.*, 830.

LONGMORE, T., C.B., F.R.C.S., on gunshot injuries, *rev.*, 176.

LOSSEN, Dr, on neurectomy, 188.

LOWNDS, T. M., M.D., on physiology of respiration, 132.

Lunacy, Report of Board of Commissioners of, in Scotland, *rev.*, 832.

Lupus, M. Hillairet on treatment of, 763.

LUSK, Professor W. J., on puerperal fever, 85.

M

Macdonald, Angus, on intra-uterine hydrocephalus, 103; letter from Dr, 384; monthly retrospect of obstetrics and gynæcology, 464–473, 556–561, 747–751, 846–849, 1127–1131; on the cervix uteri, 592; on spasmodic contraction of the lower uterine segment, 913; effects of heart disease in pregnancy, *rev.*, 1110.

Macdonald, Dr K. N., on therapeutic value of hydrocyanic acid, 981; on Burmese medicine, *rev.*, 1115.

Macdougall, Dr J. A., on Hunter's operation in cases of impassable stricture, 873.

Mackenzie, Morell, M.D., on diphtheria, *rev.*, 719.

Maclaren, James, L.R.C.S.E., on absence of corpus callosum, 609.

M'Laren, Miss Agnes, on flexions of the uterus, *rev.*, 546.

Macan, Dr, on milk fever, 558.

Madar, Dr, on scleroderma universalis, 380.

Mannheimer, Dr M., on whooping-cough, 565.

Marsh, Dr Sylvester, on section cutting, *rev.*, 1018.

Marshall, Dr, on the development of the olfactory nerve, 1047.

Martin, Henry A., on animal vaccination, *rev.*, 817.

Martin, Robert, M.D., on the collected works of Dr Latham, *rev.*, 924.

Mason, Francis, F.R.C.S, on surgery of the face, 1016.

Massini, Professor, on gelseminum, 282.

Massman, Dr Franz, on chloride of pilocarpin, 183.

Maternity Hospital, Royal, Dr A. Macdonald appointed physician, 856.

Mattei, Conte Cesare, on elettromiopatia, *rev.*, 648.

Maudsley, Henry, M.D., on hallucination of the senses, *rev.*, 810.

Mayo, Dr Thomas J., on the therapeutic forces, *rev.*, 447.

Medical Society, Royal, election of office-bearers, 672.

Melvill, Mr John F. T., obituary notice of, 959.

Metritis, chronic cervical, Jas. M. Bennett, M.D., on, 403.

Michael, Dr, on nitrate of amyl in tinnitus aurium, 379.

Michelson on eczema, 572.

Miller, Dr Hugh, on the lochial discharge, 392.

Milton, J. L., on giant urticaria, *rev.*, 727.

Minto House Medical School, Edinburgh, lecturers appointed, 856.

Mitchell, S. Weir, M.D., on fat and blood, *rev.*, 60.

Moir, John, L.R.C.P., on croup, 506, 613, 796.

Moleschott, Dr, on iodoform, 562.

Moore, Dr R. L., on hydrate of chloral in diphtheria, 378.

Morison, Alexander, M.D., on diseases of the heart, 701.

Morphia, action of, by M. Calvet, of Paris, 184; tartrate of, by John A. Erskine Stuart, L.R.C.S.E., 809.

Morris, Dr J. C., on use of alcohol in the treatment of disease, 286.

Morse, Dr, on the relation of meniochesis to pelvic contraction, 847.

Munk, Dr J., on rhubarb and santonin on the urine, 663.

Munro, W., M.D., on leprosy, 134, 226, 517; on somnambulism, letter from, 766.

Murillo, Dr, on vomiting during pregnancy, 558.

N

Nasmyth, T. Goodall, M.B., C.M., on opium poisoning, 505.

News, medical, day schools for the deaf and dumb, 383.

O

Obituary Notices—Mr Thomas Thomson, F.R.C.S., 672; Alex. Watson-Wemyss, M.D., F.R.C.S.E., 862; John Smith, M.D., F.R.C.P.E., F.R.S.E., 957; Dr Jeffrey of Ayton, 958; Mr John F. T. Melvill, 959; Surgeon-Major Joseph Dougall, M.D., F.R.C.P.E., 1053; Professor Adolphe Gubler of Paris, 1056; James Cumming, M.D., F.R.C.P.E., 1141.

Obstetrical Society of London, Transactions of, *rev.*, 68.

Ogston, Alexander, M.D., on club-foot, 481.

Ogston, Mr Francis, M.D., on a case of poisoning by chloral hydrate, 289.

Olfactory organ, the development of, 1047.

Ophthalmic surgery, general practitioners and, 852.

Opium poisoning, T. Goodall Nasmyth, M.B., C.M., on, 505.

Otalgia, various authors on, 667.

Otology, periscope of, by Dr Kirk Duncanson, 476, 567, 666, 756, 850, 948; American Journal of, 757.

Ott, Dr J., on opium and morphia, 90.

Owen, Edmund, F.R.C.S., case of strangulated inguinal hernia, 1078.

P

Pallen, Dr Montrose A., on kolpo-cystotomy, 280.

Palm, Theobald A., M.B., C.M., on shimamushi, 128.

Parkin, John, M.D., antidotal treatment of disease by, *rev.*, 549.

Pelvis, two sections of the female, by David B. Hart, M.B., 896.

Perchloride of iron, solution of, by Dr J. Matthews Duncan, 673.

Peritonitis, case of, by Robert Smith, F.R.C.S., 13.

Pernot, Dr, on carbolate of soda, 89.

Petersen, Professor, on carbolic-acid injections, 190.

Petrina, Dr, on action of pilocarpin on the pulse, 753.

Peyrand, Dr H., on chloral as a repulsive, 664.

Phonograph, Peerce and Stroh on, 1043.

Pilocarpin in eclampsia, Dr Bidder on, 282; in children's diseases, Professor Demme on, 284; as an abortifacient, 948.

Pinard, Dr Ad., on the accommodation of the fœtus during pregnancy, 469.

PIRIE, GEO. C., M.D., on spinal curvature, 214.
Plantago major for toothache, 91.
Placenta prævia in first labour, by Professor A. R. Simpson, 769.
PLATEAU, M., on the persistence of impression in the eye, 854.
Poisoning by fusel-oil and aconite, by Wm. Stewart, M.B., 904.
POLLOCK, Dr JULIUS, notes on rheumatism, *rev.*, 1016.
Potassium, bromide and chloride of, Dr Binz on, 91.
Psoriasis, histology of, by W. Allan Jamieson, M.D., 622; treatment of, by James Adams, M.D., 15.
PUECH, Dr ALBERT, on ovarian pregnancy, 473.
Puerperal fever, Professor W. J. Lusk on, 85; papers on, 184; report on, by Dr Falk, 435; etiology of, by Alex. Baird, M.D., 804.
PÜRCKHAUER on propylamine in chorea minor, 665.
Purple, the visual, various authors on, 669.

Q

Quinetum, Dr Vinkhuysen on, 283.

R

RABATEAU, M., on a new saline purgative, 1039.
RANKE on chloral hydrate, 94.
RAYLEIGH, Lord, paper communicated by, on vibration of tuning-forks, 1045.
REDENBACHER, Dr W., on bromine in croup, 947.
Refracture, on, John B. Roberts, M.D., 1, 115.
REID, Dr WILLIAM D., on long forceps, 559.
Relaxation, hour-glass, by T. Sanctuary, L.R.C.P., 30.
Reports, Liverpool and Manchester Medical and Surgical, *rev.*, 256.
Respiration, physiology of, by T. M. Lownds, M.D., 132.
Reviews—AGNEW, D. HAYES, M.D., on the principles and practice of surgery, 923; ALBERTO COUGNET on sea coasts, 1004; ANDERSON, M. F., L.R.C.P., phosphates in nutrition, on, 449; Archives of Dermatology, 1120; ARTT, FERDINAND VON, M.D., on injuries of the eye, 259; ATTHILL, LOMBE, M.D., on diseases of women, 715; AVELING, J. H., M.D., on posture in obstetric practice, 716; BELL, CHARLES, M.D., on diphtheria, on erysipelas, 933; BENTLEY, Dr, and TRIMEN, medicinal plants, 1119; BROWNE, LENNOX, F.R.C.S.E., on the throat and its diseases, 166; on forms for taking of aural cases, 453; BUCKNILL, JOHN CHAS., M.D., on habitual drunkenness, 340; BURNETT, Dr CHARLES H., on the ear, 165; CHISHOLM, H. W., on weighing and measuring, 178; CLARKE, Dr ED. H., on visions, 629; COLES, OAKLEY, Esq., a manual of dental mechanics, 731; COXE, Sir JAMES, M.D., on lunacy, 172; CREIGHTON, CHAS., M.B., on the pathology of the breast, 455; CURLING, T. B., F.R.S., on diseases of the testis, 647; Devil, the, demonstrated by a physiologist, 261; DUDGEON, R. E., M.D., on the human eye, 163; DUHRING'S, LOUIS A., M.D., atlas on skin diseases, 168, 548; DUNCAN, J. MATTHEWS, M.D., on the female perineum, 813; DURET, Dr H., on injuries of the brain, 919; ELBE-LAKE on kosmogonia, 179; ESMARCH, Dr FRIEDRICH, the surgeon's handbook, by, 645; FARINA, Dr JACQUES-FRANCOIS, on the climate of Mentone, 824; FERRIER, Dr, on the localization of cerebral disease, 1116; FIALLA, Dr LOUIS, on cataract, 164; FINLAYSON, JAMES, M.D., clinical manual, by, 552; FORGET, Dr A., on perchloride of iron in diphtheria, 1019; FOTHERGILL, J. MILNER, M.D., on therapeutic agents, 637; GAMGEE, SAMPSON, F.R.S.E., on treatment of wounds, 174; Gynecological Society, Transactions of the American, vol. ii., 1877, 815; GRIFFITHS, Dr, W. H., the late, on materia medica, 1120; HAMILTON, ALLAN M'LANE, M.D., on nervous diseases, 343; HARRISON, R., F.R.C.S., on stricture of the urethra, 65; HEATON, GEORGE, M.D., on the cure of rupture, 176; HEWITT, Dr GRAILY, F.R.C.P., system of uterine pathology, by, 544; HORTON, Dr J. A. B., on diseases of tropical climates, 1115; HUNTER, CHAS., on mechanical dentistry, 731; JAMES, PROSSER, M.D., F.R.C.P., sore throat, by, 555; JONES, H. MACNAUGHTON, M.D., treatise of aural surgery and atlas of diseases of the tympani, 454; Journals, brain, of neurology, Journal of mental science, 170; Journal of anatomy and physiology, vol. xiii. part i., 831; KEETLEY, CHARLES BELL, F.R.C.S., students' guide, by, 649; KLEIN, Dr, atlas of histology, 1119; KNOTT, JOHN F., on the pathology of the œsophagus, 1018; LANE, JAMES R., F.R.C.S., lectures on syphilis, by, 547; LEBLOND, Dr A., on gynecological surgery, 1025; LEVINSTEIN, EDWARD, M.D., on morbid craving for morphia, 160; life, science of, 728; LIVEING, R., M.D., hand-book of skin diseases, 936; LOMBARD, Docteur H. C., on medical climatology, 830; LONGMORE, T., C.B., F.R.C.S., on gunshot injuries, 176; MACDONALD, Dr A., on heart disease and pregnancy, 1110; MACDONALD, Dr K. N., on Burmese medicine, 1115; MACKENZIE, MORELL, M.D., on diphtheria, 719; MACLAREN, Miss AGNES, on flexions of the uterus, 546; MARSH, Dr SYLVESTER, on section cutting, 1018; MARTIN, HENRY A., on animal vaccination, 817; MARTIN, ROBERT, M.D., on the collected works of Dr Latham, 924; MASON, FRANCIS, F.R.C.S., on surgery of the face, 1016; MAUDSLEY, HENRY, M.D., on hallucination of the senses, 810; MAYO, THOMAS J., M.D., on the therapeutic forces, 447; MILTON, J. L., on giant urticaria, 727; MITCHELL, S. WEIR, M.D., on fat and blood, 60; Obstetrical Society of London, Transactions of, 68; of Edinburgh, Transactions of, 541; PARKIN, JOHN, M.D.,

antidotal treatment of disease, by, 549; **Pollock, Julius**, M.D., notes of rheumatism, 1016; reports, Liverpool and Manchester medical and surgical, 256; report, twentieth annual of Board of Commissioners of Lunacy in Scotland, 832; **Richardson, Benj. Ward**, M.D., F.R.S., on total abstinence, 725; dialogues on drink, 726; **Ringer, Sydney**, M.D., handbook of therapeutics, 728; **Russell, J. A.**, M.A., M.B., on sanitary houses, 71; **Russell, Wm. J.**, M.B., on domestic medicine and hygiene. 556; **Schwartze, Hermann**, M.D., on the anatomy of the ear, 647; **Semple, Robert H.**, M.D, on diphtheria, 925; **Smee**, the late **Alfred**, F.R.S., the house surgeon, by, 646; **Squire, Balmanno**, M.D., atlas of diseases of the skin, 169; **Stocken, J.**, L.D.S.R.C.S., on dental materia medica, 731; **Sturges, Octavius**, M.D., on chorea and whooping-cough, 72; **Teissier**, Dr, de la valeur thérapeutique des courants continus, 648; **Tilt, Edward John**, M.D., handbook of uterine therapeutics, by, 542; **Tomes, Chas. S.**, M.A., a manual of dental anatomy, by, 730; **Tuke, Daniel Hack**, M.D., on insanity in ancient and modern life, 344; **Virchow**, Prof. R., on infection diseases in the army, 1113; **Walsham, W. J.**, M.B., a handbook of surgical pathology, 1017; **Watteville, A. de**, on medical electricity, 648; **Whipham, Thomas T.**, M.B., on specialism in the medical profession, 729; **Wilson, Dr Andrew**, leisure-time studies, 1018; **Wilson, Erasmus**, F.R.S., lectures on dermatology, by, 641.

Rheumatism, lime-juice in, by Dr A. H. Chandler, 186.

Richardson, Benj. Ward, M.D., F.R.S., on total abstinence, *rev.*, 725; dialogues on drink, *rev.*, 726.

Richet, M., on influence of duration or intensity of luminous perception, 949.

Ringer, Sydney, M.D., handbook of therapeutics, *rev.*, 728.

Roberts, John B., M.D., on refracture, 1, 115.

Rohde, Dr, on ergot in trichina disease, 476.

Roosa, D. B. St John, M.D., on diseases of the internal ear, 666.

Rose, Dr, on rupture of the uterus, 87.

Rosemary, oil of, Drs Köhler and Schreiber on, 1042.

Row, Rajah Sir T. **Madava**, on the microphone, 850.

Ruge, Dr C., on erosions of the cervix, 183.

Russell, T. A, M.A., M.B., on sanitary houses, *rev.*, 71.

Russell, William J., M B., on domestic medicine and hygiene, *rev.*, 556.

S

Salicylic acid, Dr Bush on, 90; various authors on, 563.

Sanctuary, T., on hour-glass relaxation, 30.

Satterthwaite, Dr, on ergot in cystitis, 91.

Schultze, Dr B. S., on the cervix uteri, 182; on the persistent retroflexion of the uterus, 846.

Schwartze, Hermann, M.D., on the anatomy of the ear, *rev.*, 647.

Schwedoff, M., on movement of chords, 1043.

Seeligmuller, Dr A., on distortion in spinal paralysis, 189.

Seguin, Dr G. C., on aconite in neuralgia, 946.

Semon, Dr, on laryngology, 666.

Semple, Dr **Robert** H., on diphtheria, *rev.*, 925.

Seure, Dr, on chloral in migraine, 1042.

Sewage question, Andrew Fergus, M.D., on, 42, 153, 249, 331, 426.

Shapter, Dr **Lewis**, on psoriasis treated by arsenic, 661.

Sherwell, Dr, on use of linseed and its oil, 956.

Shima-Mushi, Theobald A. Palm, M.B., C.M., on, 128.

Sigler, Dr W. F., on croton oil in treatment of nævus, 1039.

Sigmund, Dr, on the action of iodoform, 476.

Silphium-Cyrenaicum, 947.

Simon, M. **Jules**, on belladonna in infantile diseases, 473.

Simpson, Professor A. R., address to med. graduates, Edin., 193; gleanings from a continental tour, 577; on placenta prævia in first labour, 769; on the head flexion in labour, 865; on dystocia with dorsal displacement of the arm, 961.

Skin diseases, classification and nomenclature of, by American Dermatological Association, 764.

Smee, the late **Alfred**, F.R.S., the house surgeon, by, *rev.*, 646.

Smith, John, M.D., F.R.C.P.E., F.R.S.E., obituary notice of, 957.

Smith, Dr **Noel**, on ergotine in abortion, 948.

Smith, Robert, F.R.C.S., on case of peritonitis, 13.

Society, Reports of Medico-Chirurgical.—*Session* lvii.—*Meeting* vii., 1*st May* 1878.—Exhibition of patients by Drs Balfour, Andrew, and Bramwell; discussion on paper by Dr Angus Macdonald, by Drs Grainger Stewart, Underhill, Balfour, Wyllie, Simpson, Macdonald, and Messrs Hamilton and Benjamin Bell, 73–83.

Meeting viii., 15*th May* 1878.—Exhibition of patients by Dr Balfour and Mr Chiene, and of specimens by Dr Duncan, Professor Annandale, and Mr D. J. Hamilton; paper read by Dr Symington on nerve stretching; remarks by Messrs Bell and Chiene; instruments used in Japan for the treatment of sciatica, exhibited by Dr Miller; remarks made by Drs Duncan, Balfour, Carmichael, and Symington; paper read by Dr Duncan on mercury in syphilis; remarks by Drs Cadell, Jamieson, and Miller, 261–265.

Meeting ix., 5*th June* 1878.—Specimens exhibited by Mr Bell and Dr Kirk Duncanson; patient exhibited by Mr Bell; paper read on intra-cranial tumour by Dr Byrom Bramwell; remarks by Drs Sanders, Argyll Robertson, Clouston, Cadell, and Wyllie, 316 349.

Meeting x., 19*th June* 1878.—Patient exhibited by Dr Kirk Duncanson; specimens exhibited by Drs Heron Watson and Ronaldson; paper read by Professor Rutherford on the secretion of bile, discussion by Drs Keiller, Fraser, W. Craig, A. Smart, and Grainger Stewart, 460–463.

Meeting xi., 3*d July* 1878.—Specimens exhibited by Mr Benj. Bell and Professor Fraser; remarks by Mr Chiene; paper read by Dr James on the physics of the bladder; remarks by Drs Sanders, Blair Cunynghame, Keiller, Smart, and Mr Chiene, 463–464.

Session lviii.—*Meeting* i., 6*th November* 1878. — Exhibition of patients by Dr Cadell, and of ointment by Dr W. A. Jamieson; paper read by Dr W. A. Jamieson on the histology of psoriasis; remarks by Dr Sanders and Mr Bell; paper read by Mr Chiene on knock-knee; remarks by Drs Sanders, Cossar-Ewart, Symington, and Mr Bell, 650–653.

Meeting ii., 17*th December* 1878.—Specimens exhibited by Drs Cadell and Kirk Duncanson and Mr J. D. Hamilton; notes of case read by Mr Annandale on strangulated hernia; remarks by Messrs Bell and Chiene and Dr Carmichael; notes read by Dr J. Duncan of case of filaria medinensis; remarks by Drs Hamilton, Wyllie, and John Brown, and Messrs Bell and Annandale; note by Dr Cadell read of large tumour growing from the clavicle, by J. Husband, F.R.C.S.E., 732–733.

Meeting iii., 14*th January* 1879.—Exhibition of patients by Dr Allan Jamieson; notes of surgical cases read by Mr Joseph Bell; discussion on by Drs Wilson, Duncan, and Finlay, and Mr Hamilton; paper read by Dr Duncan on pain as symptom of fracture; discussed by Drs Wilson and Miller and Mr Bell, 835–838.

Meeting iv., 4*th February* 1879.—Exhibition of pathological specimens by Messrs Spence and Hamilton, and Drs Steel and Littlejohn; notes of case of poisoning read by Dr Stewart; discussed by Drs Wilson, Littlejohn, and Affleck, and Professor Spence; paper of Dr Wortabet on the plague in Bagdad read; discussion by Drs Wilson, Graham-Brown, and Wyllie, and Mr Hamilton, 939–941.

Meeting v., 17*th February* 1879.—Specimens shown by Drs D. J. Hamilton and Kirk Duncanson; notes, read by Dr Cadell for Dr Thom, of a week's operative surgery in provincial private practice; Dr Lucas's paper of tetanus read by Dr Cadell; remarks by Drs G. Stewart, Keiller, Peel Ritchie, Blair Cunynghame, Jamieson, Young, Finlay, Grossman, and Messrs Hamilton and Bell, 1028–1030.

Meeting vi., 4*th March* 1879.—Exhibition of patients by Prof. Annandale; paper by the same on suspension; remarks by Drs Duncan, Sanders, and Miller; case of Battey's operation by Professor Simpson; remarks by Drs J. Bell, Wyllie, M'Gibbon, Cotterill, Chiene, and Annandale, 1121–1124.

Society, Reports of Obstetrical.—*Session* xxxvii.—*Meeting* x., 10*th April* 1878.—Alexander Baird, M.B., C.M., Perth, admitted; specimens exhibited by Professors Simpson and Walley; notes on cases read by Mr Donovan and Professor Simpson, 83–84.

Meeting xi., 8*th May* 1878.—Specimens exhibited by Drs Cappie, Simpson, Macdonald, and Croom; paper read by Dr Macdonald on labour complicated by hydrocephalus; remarks made on it by Drs Simpson, Croom, Cappie, Burn, Ritchie, Jamieson, and Bell, 179–181.

Meeting xii., 12*th June* 1878.—Preparations shown by Professor Simpson, and Drs Croom, Craig, Young, and Carmichael; remarks made by Drs Burn, Croom, Carmichael, and Young; Dr Underhill read a paper on accidental hæmorrhage; remarks made by Drs Wilson, Gordon, Simpson, Croom, Murray, and Burn, 265–269.

Meeting xiii., 10*th July* 1878.—Mr Donald M'Raild admitted; specimens exhibited by Drs Young, Peel Ritchie, Craig, and Buist; notes by Dr Hamilton, read by Dr Croom, on a case of placenta prævia; discussion by Drs Keiller, Macdonald, Simpson, Charles Bell, and Menzies, and Professor Lusk of New York; abdominal bandage exhibited by Mr Southon; remarks by Drs Simpson, Keiller, and Macdonald, 269–276.

Session xxxviii. — *Meeting* i., 13*th November* 1878. — Paper read on two cases by Professor Simpson; remark by Dr Keiller; paper read by Dr Baird on the etiology of puerperal fever; remarks by Drs Simpson, Keiller, Peel Ritchie, Ballantyne, J. Young, Wilson, and Bruce, 653–658.

Meeting ii., 27*th November* 1878.—Specimens exibited by Drs Simpson, Croom, Buist, Macdonald, and Craig; Dr Hamilton read a paper on the use of the forceps in tedious labour, 734–747.

Meeting iii., 11*th December* 1878.—Specimens exhibited by Dr Macdonald; remarks by Dr Hamilton on his paper read at last meeting; observations made by Dr Charles Bell; demonstration by Dr Robert Bell on the use of Tarnier's forceps; notes by Mr Lindsay Porteous on a variety of forceps read by Dr Young; paper read on single curved forceps by Dr Gordon; exhibition of long straight forceps by Dr Chas. Bell; discussion on the subject by Drs M'Raild, Keiller, Moir, Macdonald, Simpson, Chas. Bell, Ritchie, Hamilton, and Robert Bell, 838–845.

Meeting iv., 22*d January* 1879.—Remarks by Professor Simpson on Tarnier's forceps; specimens exhibited by Drs Wilson and Ritchie; notes of case communicated by Professor Simpson on accidental hæmorrhage; also a paper on sterility, etc.; discussion on, by Drs Macdonald and Underhill, 941–945.

Meeting v., 12*th February* 1879.—Specimens exhibited by Drs Macdonald and

Croom; remarks by Dr Keiller on a new tractor for obstetric forceps; notes read by Dr Macdonald of a case of hour-glass contraction; remarks by Drs Peel Ritchie, Croom, Underhill, Simpson, and Keiller; paper read by Dr Hart on a study of two mesial vertical sections of the female pelvis; remarks made by Drs Keiller, Underhill, Croom, Macdonald, and Simpson, 1030–1038.

Meeting vi., *26th February* 1879.—Exhibition of specimens by Drs Playfair, Wilson, and Buist; paper on head flexion by Professor Simpson; remarks by Drs Young and Underhill, 1124-1125.

Meeting vii., *12th March* 1879. — Dr Croom's paper on senile prolapsus; remarks by Drs Underhill, Keiller, and Young; demonstration by Dr Foulis on the development and structure of the ovary; remarks by Drs Hart, Underhill, Keiller, Wilson, and Croom, 1125–1127.

Society, Report of Odonto-Chirurgical.—*Thursday, 14th November* 1878.—Mr D. Hepburn, President, L.D.S., made some introductory remarks; paper read by Mr J. R. Brownlie; casts and specimens shown by Messrs Brownlie, Wilson, and Watson, 658–660.

Soda, carbolate of, Dr Pernot on, 89.

Somnambulism, letter from W. Munro, M.D., on, 766.

Späth, Dr Ernst, on peritonitis from injection of the acetate of lead, 848.

Spinal curvature, Geo. C. Pirie, M.D., on, 214.

Squire, Balmanno, M.B., atlas of diseases of the skin, *rev.*, 169; on glyceroli in chronic eczema, 381.

Stambio, Professor, on eucalyptus, 1043.

Steele, Henry, M.D., on case of successive aneurisms, 605.

Stewart, Dr William, on chloride of ammonium in hepatic disease, 283.

Stewart, William, M.B., on case of poisoning from fusel-oil and aconite, 104.

Stocken, J., L.D.S.R.C.S., on dental materia medica, *rev.*, 731.

Stricture, Dr Hunter's operation in cases of impassable, by J. A. Macdougall, M.D., 873.

Stuart, John A. Erskine, L.R.C.S.E., on tartrate of morphia, 809; on hæmatemesis in the newly-born child, 1081.

Students, address to, 1878–79, 350.

Sturges, Octavius, M.D., on chorea and whooping-cough, *rev.*, 72.

Summerhill, Dr, on damiana, 474.

Surgical cases, by Joseph Bell, F.R.C.S., 789.

Suspension as an aid to surgical demonstrations, by Thos. Annandale, F.R.C.S.E., 1001.

Syphilis, mercury in, by John Duncan, 97.

T

Taylor, Dr W. T., on case of peliosis rheumatica, 762.

Teissier, Dr, on courants continus, *rev.*, 648; digitalis, 754.

Telegraph, new writing by, Mr Cowper, 953.

Telephone, a new, invented by Mr Gower, 952.

Therapeutics, monthly report of, by Dr Wm. Craig, 89, 184, 282, 378, 473, 561, 660, 751, 945, 1039, 1131.

Thevenot's globules, medicine chest of, 285.

Thin, Dr, on condition of the skin in tinea tonsurans, 954.

Thomas, Dr T. Gaillard, on placenta prævia, 86; on intravenous injection of milk, 187; on laparo-elytrotomy, 278; on controlling temperature after ovariotomy, 557.

Thomson, Thomas, F.R.C.S. Ed., obituary notice of, 672.

Thymol and its uses, Ranke and Kussner on, 945.

Tilt, Edward John, M.D., handbook of uterine therapeutics, by, *rev.*, 542.

Tomes, Chas. S., M.A., a manual of dental anatomy, *rev.*, 730.

Tucker, Dr James, on tincture of thapsus, 946.

Tuke, Daniel Hack, M.D., on insanity in ancient and modern life, *rev.*, 344.

Tumour, intra-cranial, Dr Byrom Bramwell on, 141, 311, 498, 599, 693; case of large, 1070, by J. Husband, F.R.C.S.E., 908; adenoid, of the naso-pharynx, by Dr Lœwenberg, 910, 996, 1099.

Tyrgakian, Monsieur, on the salts of conia, 752.

U

Ubicini, M. Louis, on tayuya, 92.

Underhill, Dr C. E., on three cases of accidental hæmorrhage, 200.

Urbantschitsch, Dr Victor, on the influence of head movements on audition, 971.

Urine, case of milk like, by John Haddon, M.A., M.D., 979.

Uteri, amputation of the cervix, by Dr A. Leblond, 88; cervix, Dr Angus Macdonald on, 592.

Uterine Segment, on the spasmodic contraction of the lower, by Angus Macdonald, M.D., 913.

Uterus, retroversion of the gravid, by J. B. Buist, M.D., M.R.C.P., 147; rupture of, by Dr Rose, New York, 89.

V

Vaccination, Dr P. M. Braidwood on, 385.

Veit, Dr J., on erosions of the cervix, 183; on the fracture of skull in cases of labour by administration of secale cornutum, 847.

Verger, M., on apomorphia, 567.

Vieira, Dr A. X. Lopez, on case of ascites, 415.

Vidal, Monsieur, on the inoculability of certain affections of the skin, 571.

Vinkhuysen, Dr, on quinetum, 283.

Virchow on syphilitic disease of the labyrinth, 667; on infection diseases, *rev.*, 1113.

Vulpian, M., on facial paralysis, 851.

W

Waller, Dr B. C., on new form of section-knife, 893.

Walsham, W. J., M.B., F.R.C.S., handbook of surgical pathology, 1017.

Watteville, A. de, on medical electricity, *rev.*, 648.

WEMYSS, ALEXANDER WATSON, M.D., F.R.C.S.E., obituary notice of, 862.
WHIPHAM, THOMAS T., M.B., on specialism in medical profession, *rev.*, 729.
WIEDMANN, CARL, on pharmacology of camphor, 755.
WILL, J. C. OGILVIE, M.D., on surgical uses of elastic compression, 782; clinical remarks on gleet, 882.
WILSON, Dr ANDREW, on hydrophobia, 207, 315; leisure-time studies, *rev.*, 1018.
WILSON, ERASMUS, F.R.S., lectures on dermatology, *rev.*, 641.
WITTICH, Dr, on camphor in sleeplessness, 567; as a hypnotic, 664.
WORTABET, Dr JOHN, on fevers of Syria, 154.
WREDEN, on plug in the external auditory canal, 476.

Y

YANDELL, Dr, on alcohol in therapeutics, 287.
YOUNG, Dr David, on glycerine, 91.

Z

ZANISCH, Dr A., on chrysophanic acid, 287.

END OF TWENTY-FOURTH VOLUME.

THE BOSTON
SOCIETY FOR
MEDICAL
OBSERVATION

PRINTED BY OLIVER AND BOYD, EDINBURGH.

JUN 1969

SBY

JUN 1969

ESBY